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May 18, 2005

Mr. Jim Tischler  
California Regional Water Quality Control Board  
North Coast Region  
5550 Skylane Boulevard, Suite A  
Santa Rosa, California 95403

RE: **Pilot Dual Phase Extraction Summary Report**  
76 (Former BP) Service Station No. 11249  
1300 Farmers Lane  
Santa Rosa, California  
SECOR Project No.: 77CP.60249.03.0001

Dear Mr. Tischler:

On behalf of ConocoPhillips, SECOR International Incorporated (SECOR) is pleased to submit the enclosed *Pilot Dual Phase Extraction Summary Report* for the above-referenced site.

If there are any questions or comments regarding the contents of this document, please contact me at (916) 861-0400.

Sincerely,  
**SECOR International Incorporated**

A handwritten signature in black ink, appearing to read "Rusty Benkosky".

Rusty Benkosky P.E.  
Principal Engineer

cc: Ms. Liz Sewell, ConocoPhillips  
Mr. Kyle Christie, BP



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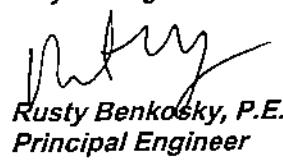
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**PILOT DUAL PHASE EXTRACTION SUMMARY REPORT FOR  
76 (FORMER BP) SERVICE STATION  
NO. 11249  
1300 Farmers Lane, Santa Rosa, CA**

**May 18, 2005  
77CP.60249.03.0001**



*Robert Lund, E.I.T.  
Project Engineer*



*Rusty Benkosky, P.E.  
Principal Engineer*



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## 2.0 SITE BACKGROUND

### 2.1 Site Description

The site is an operating 76-branded gasoline service station located on the northeast corner of the intersection of Farmers Lane and Valley Street in Santa Rosa, California (Figure 1). Site features include a convenience store, two service bays, two dispenser islands, and USTs. Properties located in the vicinity of the site consist of residential and commercial developments. Matanzas Creek is located adjacent to the site to the north.

### 2.2 Previous Investigations

An unauthorized release filed by Mobil on September 2, 1987 indicated the occurrence of a release of unknown quantity due to the failure of product piping associated with the 10,000-gallon gasoline UST and the 280-gallon waste oil UST (EMCON, *Baseline Assessment*, December 27, 1994).

In August 1988, Kaprelean Engineering, Inc. (KEI) observed the excavation and removal of one steel 280-gallon waste oil UST. One soil sample collected at the base of the UST excavation (10 feet below ground surface [bgs]) contained petroleum hydrocarbons as oil and grease and trichloroethane (KEI, *Soil Sampling Investigation*, August 23, 1988). Stockpiled soil contained 110 parts per million (ppm) total petroleum hydrocarbons and diesel (TPHd) and 3,800 ppm total recoverable petroleum hydrocarbons (TRPH, KEI, *Stockpiled Soil Sampling*, September 8, 1988). The removed waste oil UST was replaced with a new 1,000-gallon double walled fiberglass waste oil UST installed in 1988 (EMCON, *Baseline Assessment Report*, December 27, 1994).

In October 1991, EMCON supervised the drilling and installation of one groundwater monitoring well (MW-1) in the vicinity of the former waste oil UST. With the exception of detections of specific metals and 1,2-dichloroethane (1,2-DCA) in groundwater, petroleum hydrocarbons were not detected in soil and groundwater (EMCON, November 19, 1991).

During November 1992, Alisto Engineering Group (Alisto) supervised the installation of three groundwater monitoring wells (MW-2 through MW-4) at the site. The boreholes were advanced to approximately 28 feet bgs. Analysis of soil samples indicated the presence of total petroleum hydrocarbons as gasoline (TPHg) at 140 ppm, and ethylbenzene at 0.46 ppm. TPHg and benzene were detected in groundwater up to 89 parts per billion (ppb) and 1.4 ppb, respectively (Alisto, *Preliminary Site Assessment Report*, January 27, 1993).

In January 1999, Environmental Resources Management (ERI) supervised the removal of one 1,000-gallon used oil UST, which was observed to be intact with no visible holes or cracks. Soil samples collected from beneath the UST contained TPHd, TPHg, and ethylbenzene up to concentrations of 312 ppm, 2.3 ppm, and 0.011 ppm, respectively. This used oil UST was not utilized by Tosco between July 1994 and the time of its removal (ERI, *Environmental Work Associated With Used-Oil Underground Storage Tank Removal*, April 20, 1999). Tosco was subsequently named as a responsible party for the ongoing investigation and mitigation of impacts beneath the site (RWQCB-NCR, October 4, 1999).

In November and December 1999, ERI oversaw the removal and replacement of product lines and dispensers, and collected soil samples from the trenches and beneath the dispensers. Soil samples contained up to 605 ppm TPHg, 0.0204 ppm benzene, and 0.477 ppm MtBE.

In March 2000, ERI supervised the drilling of eight soil borings (B-4 through B-8, and MW-5 through MW-7). Three of the borings were converted to groundwater monitoring wells (MW-5 through MW-7), completed at a depth of 47 feet bgs. Petroleum hydrocarbons and MtBE were detected in soil and groundwater beneath the site (ERI, *Soil and Groundwater Investigation Report*, May 25, 2000).

In June 2001, ERI supervised the installation of two additional wells (MW-7D and MW-10) and two dual completion monitoring wells (MW8S/D and MW9S/D). Soil samples were not collected during drilling. Post-development groundwater samples contained up to 130 ppb TPHg and 33 ppb MtBE.

In July 2002, one extraction well (EX-1) and one observation well (OB1) installed at the site. Concentrations of TPHg and MtBE were reported in soil samples up to 64 milligrams per kilogram (mg/kg) and 0.96 mg/kg, respectively.

In October 2002, ERI drilled and sampled two direct push soil borings (GP-1 and GP-2) on the west side of Farmers Lane opposite the site. The borings were respectively advanced to 28 and 32 feet bgs. Petroleum hydrocarbons and MtBE were not detected in soil samples. Grab groundwater samples contained up to 620 ppb TPHg and 4,400 ppb MtBE.

In March 2003, ERI submitted an *Interim Remedial Action Plan (IRAP)*, which proposed the installation of a DPE and ozone sparging (OS) system at the site to control the off-site migration of contaminants beneath the site (ERI, *Interim Remedial Action Plan*, March 18, 2003). The RWQCB-NCR approved the IRAP as stated in correspondence dated August 15, 2003. The RWQCB-NCR also requested further delineation of dissolved MtBE west of the site.

In September 2004, SECOR submitted a proposal to modify the IRAP, and a work plan for the installation of two off-site wells (MW-11 and MW-12) and performance of a DPE test at the site. SECOR recommended further delineation of off-site impacts and DPE feasibility testing to evaluate whether DPE is an effective remedial strategy for the site (SECOR, *Proposal to Modify Remediation Plan and Work Plan for Additional Off-Site Assessment*, September 3, 2004). The modified IRAP and work plan for additional off-site assessment were approved by the RWQCB-NCR in correspondence dated December 20, 2004 (Appendix A).

## **2.3 Sensitive Receptor Survey**

In 2000, ERI conducted an agency and door-to-door groundwater receptor survey. According to files obtained from the California Department of Water Resources (DWR), a total of 22 wells were identified within a one-half mile radius of the site. Twenty were identified as domestic wells, and two were found to be irrigation wells. A quarter-mile radius door-to-door survey performed cross-gradient and downgradient of the site indicated the presence of nine water supply wells, including one municipal water supply well owned and maintained by the City of Santa Rosa. Six of these wells were reported as being abandoned or not used; one well was reported as being used for irrigation purposes; and one well was reported as being used for

drinking and irrigation purposes. The closest active water supply well to the site is a private domestic well located approximately 1,000 feet northwest of the site. ERI also performed a utility survey, which indicated the presence of several utilities beneath Vallejo Street and Farmers Lane. Results are further summarized in ERI's *Soil and Groundwater Investigation Report* dated May 25, 2000.

### **3.0 CURRENT SITE STATUS**

The site has been monitored and sampled since the fourth quarter 1992. The current groundwater monitoring well network consists of 13 wells are monitored and sampled on a quarterly basis. Ten wells (MW-1 through MW-7, MW-8S, MW-9S, and MW-10) are screened in the shallow water bearing zone and three wells (MW-7D through MW-9D) are screened in the deeper zone (approximately 60 feet bgs). Groundwater samples are analyzed for the presence of gasoline range organics (GRO) by Environmental Protection Agency (EPA) Method 8015M; benzene, toluene, ethylbenzene, and total xylenes (BTEX) and MtBE by EPA Method 8021B; and fuel oxygenates MtBE, tertiary amyl methyl ether (TAME), di-isopropyl ether (DIPE), ethyl tertiary butyl ether (EtBE), TBA, ethanol, 1,2-DCA, and ethylene dibromide (EDB) by EPA Method 8260B.

The highest concentrations of petroleum hydrocarbons, MtBE, and TBA have historically been detected in shallow on-site wells MW-4, MW-6, and MW-7 and shallow off-site well MW-9S, located north-northwest of the site. These wells are situated in the vicinity (MW-4 and MW-7), north (MW-6), and northwest (MW-9S) of the USTs and product dispensers. The direction of groundwater flow beneath the site has predominantly been toward the north and north-northwest.

Contamination in soil is adequately delineated. The majority of soil impacts are limited to the capillary fringe in the area of the product dispensers. The extent of dissolved impacts have been defined in the shallow zone by generally non-detectable concentrations of petroleum hydrocarbons and fuel oxygenates upgradient of the USTs and product dispensers (MW-3 and MW-10), and cross-gradient to downgradient to the northeast (MW-1 and MW-5). Although the downgradient extent of impacts have been defined by non-detectable concentrations of petroleum hydrocarbons and relatively low levels of MtBE in downgradient wells MW-8S and MW-9S north to northwest of the site, the extent of dissolved TBA has not been defined in the vicinity of well MW-9S. Shallow dissolved petroleum hydrocarbon and fuel oxygenate impacts have also not been defined west of the site. The vertical extent of dissolved petroleum hydrocarbons and fuel oxygenates have generally been defined by non-detectable concentrations of petroleum hydrocarbons in deep zone wells MW-7D through MW-9D. With the exception of relatively low levels of MtBE in well MW-7D, the deep zone wells have historically not contained fuel oxygenates.

## 4.0 DPE FEASIBILITY TESTING

### 4.1 Pre-Test Activities

Prior to initiation of field activities, SECOR sent a system startup notification letter to the Bay Area Air Quality Management District (BAAQMD). SECOR also prepared a site-specific Health and Safety Plan (HASP). The HASP is a requirement of the Occupational Health and Safety Administration (OSHA) "Hazardous Waste Operation and Emergency Response" guidelines (29 CFR 1910.120), and by the California Occupational Health and Safety Administration (Cal-OSHA) "Hazardous Waste Operations and Emergency Response" guidelines (CCR Title 8, Section 5192). The HASP was reviewed by field staff and contractors prior to beginning field operations at the site.

### 4.2 DPE Summary

DPE was performed using a 25-horsepower (hp), 350-standard cubic feet per minute (scfm), liquid ring vacuum pump connected to a thermal oxidizer (therm-ox) that was used as the soil vapor abatement device. Both soil vapor and groundwater were extracted from the subsurface.

SECOR performed the DPE test at the site between March 8 and 10, 2005. The DPE test began at 8:15 a.m. on March 8, 2005 by extracting from well EX-1. Duration of testing on the first day of DPE was approximately 10 hours. On the second day of the DPE test, groundwater was extracted from well EX-1 for approximately 10 hours, beginning at 6:15 a.m. on March 9, 2005. On the third and final day of the DPE test, groundwater was extracted from well EX-1 for approximately 10 hours, beginning at 4 a.m. on March 10, 2005. During the testing period, readings of depth to water and induced vacuum were collected from wells MW-2, MW-4, MW-7, and OB-1, which are respectively located approximately 58 feet, 14 feet, 22 feet, and 12 feet from extraction well EX-1. The DPE unit was operational for a total of 30.2 hours throughout the three-day testing period.

Physical and chemical parameters including applied vacuum, soil vapor extraction (SVE) flow rates, soil vapor temperature, and volatile organic compounds (VOC) concentration measurements were monitored throughout the DPE event. VOC concentrations were measured using a flame-ionization detector (FID). Vacuum gauges were placed at nearby monitoring wells in order to monitor the negative pressure gradient induced by DPE at the extraction well. DPE operational data is presented as Table 1. Soil vapor analytical data collected during DPE is presented in Table 2. Soil vapor emissions data during DPE is included in Table 3. DPE feasibility testing field data sheets are included as Appendix B.

### 4.3 DPE Results

- During the first day of the DPE test, the applied vacuum at extraction well EX-1 ranged from 25 to 26.5 inches of mercury (in. Hg), and vapor extraction flow rates ranged from 31.9 actual cubic feet per minute (acf m) to 36.3 acf m. Induced vacuums in observation wells ranged from -0.02 to -1.07 inches of water (in. H<sub>2</sub>O, MW-2), 0.03 to -1.05 in. H<sub>2</sub>O (MW-4), 0.0 to 0.0 in. H<sub>2</sub>O (MW-7), and 0.02 to -0.67 in. H<sub>2</sub>O (OB-1). Groundwater

elevations in observation wells MW-2, MW-4, MW-7, and OB-1 decreased by 1.01 feet, 0.8 feet, 0.63 feet, and 0.85 feet, respectively.

- During the second day of the DPE test, the applied vacuum at extraction well EX-1 was 26 in. Hg, and vapor extraction flow rates ranged from 30.5 acfm to 31.2 acfm. Induced vacuums within the observation wells ranged from 0.02 to -0.02 in. H<sub>2</sub>O (MW-2), 0.03 to 0.0 in. H<sub>2</sub>O (MW-4), 0.0 to 0.0 in. H<sub>2</sub>O (MW-7), and 0.01 to -0.24 in. H<sub>2</sub>O (OB-1). The groundwater elevations in observation wells MW-2, MW-4, MW-7, and OB-1 decreased by 0.24 feet, 0.09 feet, 0.08 feet, and 0.17 feet respectively.
- During the final day of the DPE test, the applied vacuum at extraction well EX-1 was 26.5 in Hg, and the vapor extraction flow rates ranged from 29.3 acfm to 31.1 acfm. Induced vacuums in the observation wells ranged from 0.03 to 0.0 in. H<sub>2</sub>O (MW-2), 0.08 to 0.03 in. H<sub>2</sub>O (MW-4), 0.0 to 0.0 in. H<sub>2</sub>O (MW-7), and -0.01 to -0.02 in. H<sub>2</sub>O (OB-1). The groundwater elevations in observation wells MW-2, MW-4, MW-7, and OB-1 decreased by 0.22 feet, 0.54 feet, 0.37 feet, and 0.4 feet, respectively.

#### **4.4 DPE – Soil Vapor Laboratory Analytical Results**

Influent soil vapor samples were collected through a sampling port located on the well manifold pre-dilution. Influent soil vapor samples were collected through a sampling port located on the DPE manifold pre-dilution. The air samples were sent under chain-of-custody documentation to a California State-certified analytical lab (Severn Trent Laboratories), and analyzed for TPHg, BTEX, and MtBE by EPA Method 8260B. Soil vapor analytical results are presented in Table 2. Certified laboratory analytical reports and chain-of-custody documentation are included in Appendix D.

Individual influent soil vapor samples were collected for well EX-1 at the beginning and end of each day. The highest soil vapor concentrations of TPHg, ethyl benzene, and MtBE were measured in the influent sample collected on March 8, 2005, at concentrations of 2,000 parts per million by volume (ppmv), <2.3 ppmv, and 31 ppmv, respectively. The highest soil vapor concentrations of benzene, toluene, and xylenes were measured in the soil vapor sample from MW-4 on March 9, 2005 at concentrations of <0.50 ppmv, <0.50 ppmv, and 2.90 ppmv, respectively. Influent concentrations decreased after the first day of extraction. Influent concentrations of TPHg, benzene, and MtBE versus time are shown on Figure 2.

#### **4.5 DPE – Soil Vapor Mass Removal Rates**

The total mass of TPHg, benzene, and MtBE removed from extracted soil vapor during the test was estimated using the average combined influent vapor analytical results, average well field flow rates, and the time between each sample. The calculated TPHg, benzene, and MtBE mass removed during the DPE test were approximately 16.0 pounds, 0.02 pounds, and 0.21 pounds, respectively. The estimates of petroleum hydrocarbon mass removal from soil vapor during DPE testing are presented as Table 4. A plot of the estimated mass removed by soil vapor extraction throughout the duration of DPE testing is presented as Figure 3.

#### **4.6 DPE – SVE Radius of Influence**

The radius of influence could not be determined from this test because induced vacuums were not obtained while extracting from the wells individually. Induced vacuums greater than 0.1 in. H<sub>2</sub>O, which is a sufficient level of vacuum to induce airflow in the area (Suthan S. Suthersan, *Remediation Engineering Design Concepts*, 1997, pp. 54), were not observed in wells MW-2 and MW-7. However, vacuum levels in OB-1 exceeded 0.1 in. H<sub>2</sub>O during the first two days of the DPE test, and vacuum levels in MW-4 exceeded 0.1 in. H<sub>2</sub>O on the first DPE test day. The soil vapor radius of influence was estimated to be less than 14 feet. Results are indicative of a porous soil due to short circuiting of air currents, but with significant radius of influence for water table drawdown.

#### **4.7 DPE – GWE Mass Removal Rates**

Groundwater samples were collected from the knock-out (KO) tank at the beginning and at the end of testing. Samples were analyzed for TPHg, BTEX, and MtBE by EPA Method 8260B. Results are presented in Table 5, and were used to calculate the estimated removal of petroleum hydrocarbon mass by GWE.

Approximately 3,840 gallons of groundwater were extracted during the DPE test. It is estimated that approximately 0.0039 pounds of TPHg, 0.0000057 pounds of benzene, and 0.0015 pounds of MtBE were removed from the extracted groundwater. The GWE mass removal estimates are shown in Table 6.

#### **4.8 Waste Water Profiling And Disposal**

Groundwater samples were collected from well EX-1 for waste profiling prior to DPE feasibility testing. The samples were submitted for analysis of TPHg, BTEX, MtBE, and volatile organic compounds (VOCs – full scan) by EPA Method 8260; CAM 17 metals by EPA Method 6010B; ignitability (flashpoint) by EPA Method 1010; reactivity (cyanide and sulfide) by EPA Methods 9014 and 9034; corrosivity (pH) by EPA Method 150.1; total sulfide by EPA Method 376.1; and total cyanide by EPA Method 335.2. The certified laboratory analytical report and chain-of-custody documentation are presented in Appendix D.

Approximately 3,840 gallons of groundwater were extracted from well EX-1 and temporarily stored in a 6,500-gallon holding tank situated behind the station building on-site. Following the receipt of approval from the ConocoPhillips refinery in Rodeo, California on April 8, 2005, the extracted groundwater was hauled from the site by Onyx Industrial Services, Inc. (Onyx) on April 18, 2005 to the refinery for proper disposal.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

Based upon the results of DPE feasibility testing, SECOR concludes the following:

- SVE appears to be a viable option for remediation of vadose zone soil beneath the site, based on high influent vapor concentrations recorded during SVE feasibility testing.
- DPE appears to be an effective remedial option based on water level drawdown, high SVE and GWE extraction flow rates, and high soil vapor petroleum hydrocarbon removal rates observed during DPE testing.

Based upon the above, SECOR recommends installation of a SVE and OS system at the site. SECOR does not recommend the installation of a DPE system as originally proposed by ERI in their *Interim Remedial Action Plan*, dated March 18, 2003, due to concentrations of TBA detected up to 2,000 µg/L in groundwater.

**S E C O R**

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**TABLES**

**Table 1**  
**Dual Phase Extraction Operational Data**  
**76 (Former BP) Service Station No. 11249**  
**1300 Farmers Lane**  
**Santa Rosa, California**

DATE	TIME	FID (ppmv)	Well Manifold Vacuum [in-Hg]	Well Field Vapor Vapor Flow Rate (acfm)	Well Field Temperature $^{\circ}$ F	Total System Vapor Flow Rate (acfm)	Dilution Air Flow Rate (acfm)	System Vapor Vacuum [in-Hg]	Slump Tube Depth (feet bgs)	System Hour Motor (hours)	System Hour Totalizer (gallons)	Observation Wells and offset from Extraction Well (ft)				Comments
												MW-2 (50)	MW-4 (14)	MW-7 (22)	OB-1 (12)	
<b>Extraction Well EX-1</b>																
03/08/05	6:15 AM	2,000	25.00	50.50	30.00	40.10	10.10	25.00	10.00	11072.30	7.610	-	9.14	9.38	0.00	9.50
03/08/05	6:30 AM	2,000	26.00	50.50	31.70	ch	0.00	off	10.00	-	10.46	-1.07	9.59	-1.04	10.05	0.00
03/08/05	6:45 AM	3,200	26.00	50.40	31.10	31.10	0.00	26.00	15.00	-	-	-	-	-	-	9.80
03/08/05	6:50 AM	-	-	-	-	-	-	-	-	10.50	-1.10	9.60	-1.05	10.05	0.00	9.87
03/08/05	0:00 AM	3,400	26.00	50.70	31.70	0.00	-	-	15.00	-	-	-	-	-	-	-0.67
03/08/05	6:15 AM	-	-	-	-	-	-	-	-	10.48	-0.62	9.62	-0.57	10.07	0.00	9.89
03/08/05	6:20 AM	4,000	26.00	50.70	31.90	31.90	0.00	26.00	20.00	-	-	-	-	-	-	-0.51
03/08/05	6:30 AM	-	-	-	-	-	-	-	-	10.50	-0.11	9.65	-0.39	10.10	0.00	9.95
03/08/05	6:40 AM	4,000	26.00	50.90	30.90	30.90	0.00	20.00	25.00	-	-	-	-	-	-	-0.40
03/08/05	7:00 AM	3,700	26.00	50.70	31.10	31.10	0.00	28.00	30.00	-	-	-	-	-	-	-
03/08/05	10:20 AM	-	-	-	-	-	-	-	-	10.46	-0.04	9.69	-0.29	10.12	0.00	10.01
03/08/05	10:30 AM	3,100	26.00	50.60	31.20	31.20	0.00	26.00	34.00	-	-	-	-	-	-	-0.17
03/08/05	10:45 AM	4,000	26.00	60.00	31.60	31.60	0.00	25.00	34.00	-	-	-	-	-	-	-
03/08/05	11:00 AM	4,000	25.00	60.00	31.50	31.50	0.00	25.00	34.00	-	-	-	-	-	-	-
03/08/05	11:30 AM	-	-	-	-	-	-	-	-	10.47	-0.02	9.75	-0.25	10.14	0.00	10.03
03/08/05	12:20 PM	4,100	26.00	60.10	31.70	31.70	0.00	26.00	34.00	-	-	-	-	-	-	-0.15
03/08/05	12:30 PM	-	-	-	-	-	-	-	-	10.72	-0.02	9.79	0.03	10.30	0.00	10.07
03/08/05	12:50 PM	6,700	20.50	60.20	29.50	0.00	28.50	34.00	-	-	-	-	-	-	-	-
03/08/05	1:30 PM	0,500	26.50	60.20	29.70	29.70	0.00	20.50	34.00	-	-	-	-	-	-	-
03/08/05	2:30 PM	9,200	26.50	60.20	30.80	30.80	0.00	26.50	34.00	-	-	-	-	-	-	-0.11
03/08/05	3:35 AM	-	-	-	-	-	-	-	-	10.63	-0.02	9.69	0.04	10.46	0.00	10.27
03/08/05	3:40 PM	9,000	26.50	60.20	29.70	29.70	0.00	20.50	34.00	-	-	-	-	-	-	-0.10
03/08/05	4:45 PM	7,100	26.50	60.30	29.50	29.50	0.00	26.50	34.00	-	-	-	-	-	-	-
03/08/05	5:30 AM	-	-	-	-	-	-	-	-	10.55	-0.03	9.64	0.03	10.51	0.00	10.35
03/08/05	5:45 PM	7,000	28.50	60.20	30.10	30.10	0.00	26.50	34.00	-	-	-	-	-	-	-0.09
03/08/05	5:50 PM	7,000	26.50	60.20	30.00	30.00	0.00	26.50	34.00	11082.20	0.070	-	-	-	-	-
<b>No readings were taken</b>																
03/09/05	6:15 AM	900	28.50	50.50	30.70	30.70	0.00	26.50	34.00	11082.50	0.070	-	0.50	0.00	10.18	0.00
03/09/05	6:45 AM	2,500	28.50	50.70	30.50	30.50	0.00	26.50	34.00	-	-	-	-	-	-	-
03/09/05	7:00 AM	2,700	26.50	50.90	31.00	31.00	0.00	26.50	34.00	-	-	-	-	-	-	-
03/09/05	7:30 AM	-	-	-	-	-	-	-	-	10.80	-0.02	9.71	0.00	10.20	0.00	10.01
03/09/05	8:05 AM	3,000	20.50	50.80	30.90	30.90	0.00	26.50	34.00	-	-	-	-	-	-	-
03/09/05	8:40 AM	-	-	-	-	-	-	-	-	10.85	0.01	9.80	0.00	10.23	0.00	10.14
03/09/05	9:00 AM	4,000	28.50	50.90	30.70	30.70	0.00	26.50	34.00	-	-	-	-	-	-	0.01
03/09/05	9:45 AM	-	-	-	-	-	-	-	-	10.67	0.01	9.67	0.01	10.31	0.00	10.18
03/09/05	10:10 AM	4,000	26.50	60.10	30.90	30.90	0.00	26.50	34.00	-	-	-	-	-	-	-0.03
03/09/05	11:00 AM	-	-	-	-	-	-	-	-	10.82	0.02	9.64	0.03	10.41	0.00	10.20
03/09/05	11:30 AM	5,100	26.50	60.20	30.70	30.70	0.00	26.50	34.00	-	-	-	-	-	-	-0.24

Sampled INF-1  
INF-1  
Sampled INF-2  
INF-2  
End Day #1

Sampled INF-3

**Table 1**  
**Dual Phase Extraction Operational Data**  
**76 (Former BP) Service Station No. 11249**  
**1300 Farmers Lane**  
**Santa Rosa, California**

DATE	TIME	FID (psi/m)	Well Manifold Vacuum [Torr]	Well Field Vapor Temperature °F	Well Field Vapor Flow Rate (scfm)	Total System Vapor Flow Ratio (acfmin)	Chillout Air Flow Rate (acfmin)	System Blower Vacuum [Torr]	Slurp Tube Depth (feet bgs)	System Hour Motor Running (hours)	System Totalizer Reading (gallons)	Observation Wells and offset from Extraction Well (ftgal)				Comments		
												MW-2 (58)	MW-4 (14)	MW-7 (22)	OB-1 (12)			
03/09/05	12:15 PM	-	26.50	60.20	31.10	0.00	26.50	-	-	-	10.95	0.01	0.99	0.02	10.50	0.00	10.24	-0.20
03/09/05	12:35 PM	4.600	-	-	-	-	-	-	-	-	10.94	0.00	10.01	0.01	12.51	0.00	10.25	-0.07
03/09/05	1:20 PM	-	26.50	60.20	31.00	0.00	26.50	34.00	-	-	-	-	-	-	-	-	-	
03/09/05	1:30 PM	4.200	-	-	-	-	-	-	-	-	10.90	0.01	10.05	0.02	10.55	0.00	10.29	-0.10
03/09/05	2:20 PM	-	26.50	60.30	30.90	0.00	26.50	34.00	-	-	-	-	-	-	-	-	-	
03/09/05	2:30 PM	4.300	-	-	-	-	-	-	-	-	10.89	0.01	10.09	0.02	10.50	0.00	10.31	-0.11
03/09/05	3:30 PM	-	26.50	60.30	31.10	0.00	26.50	34.00	-	-	-	-	-	-	-	-	-	
03/09/05	3:45 PM	4.200	-	-	-	-	-	-	-	-	11.01	0.00	10.12	0.02	10.62	0.00	10.32	-0.12
03/09/05	4:00 PM	4.300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
03/09/05	4:20 PM	4.200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
03/10/05	4:00am	500	27	50	28.70	0.00	28.5	34	11052.5	10.390	-	-	-	-	-	-	-	-0.02
	4:35 AM	1,100	27	50	30.10	0.00	28.5	34	-	-	-	-	-	-	-	-	-	
03/10/05	5:00 AM	1,800	27	50	29.80	0.00	26.5	34	-	-	-	-	-	-	-	-	-	
03/10/05	6:00 AM	2,100	27	50	30.00	0.00	28.5	34	-	-	-	-	-	-	-	-	-	
03/10/05	7:05 AM	2,500	27	50	29.30	0.00	28.5	34	-	-	-	-	-	-	-	-	-	
03/10/05	7:10 AM	-	-	-	-	-	-	-	-	-	10.89	0.00	8.77	0.03	10.38	0.00	10.04	-0.01
03/10/05	8:30 AM	-	-	-	-	-	-	-	-	-	10.85	0.01	10.01	0.08	10.50	0.00	10.33	-0.02
03/10/05	8:50 AM	3,500	27	51.00	28.70	0.00	26.5	34	-	-	-	-	-	-	-	-	-	
03/10/05	9:35 AM	4,000	27	54.70	26.80	0.00	28.5	34	-	-	-	-	-	-	-	-	-0.02	
03/10/05	9:40 AM	-	-	-	-	-	-	-	-	-	10.89	0.01	10.04	0.08	10.57	0.00	10.32	-0.02
03/10/05	10:35 AM	-	-	-	-	-	-	-	-	-	11.01	0.02	10.97	0.07	10.61	0.00	10.34	-0.02
03/10/05	10:40 AM	4,200	27	58	30.00	0.00	26.5	34	-	-	-	-	-	-	-	-	-	
03/10/05	11:35 AM	4,100	27	59	31.10	0.00	28.5	34	-	-	-	-	-	-	-	-	-	
03/10/05	11:40 AM	-	-	-	-	-	-	-	-	-	11.02	0.02	10.09	0.05	10.63	0.00	10.36	-0.02
03/10/05	12:35 PM	-	-	-	-	-	-	-	-	-	11.01	0.03	10.14	0.06	12.62	0.00	10.35	-0.02
03/10/05	12:40 PM	4,000	27	60.00	31.00	0.00	28.5	34	-	-	-	-	-	-	-	-	-	
03/10/05	1:00 PM	4,000	27	60.00	30.70	0.00	28.5	34	-	-	-	-	-	-	-	-	-	
03/10/05	1:35 PM	-	-	-	-	-	-	-	-	-	11.03	0.02	10.13	0.07	10.64	0.00	10.38	-0.02
03/10/05	1:40 PM	4,000	27	60	30.60	0.00	28.5	34	-	-	-	-	-	-	-	-	-	
03/10/05	1:50 PM	4,000	27	60	31.00	0.00	28.5	34	-	-	-	-	-	-	-	-	-	
Totalizer readings (Start & End)												7,810	11,650					
Total volume of Water Extracted:												3,040	gallons					
System hour meter readings (Start & End)												11072.3	11102.7	hours				
Total time of test:												30.2	hours					
<b>Explanations:</b>																		
Hg' = Inches of mercury																		
H <sub>2</sub> O' = inches of water																		
acfmin= Actual cubic feet per minute																		
scfm = Standard cubic feet per minute																		
bgs = Below ground surface																		
TOC = Top of well casing																		
— not measured or analyzed																		

**Table 2**  
**Dual Phase Extraction System Soil Vapor Analytical Data**  
**76 (Former BP) Service Station No. 11249**  
**1300 Farmers Lane**  
**Santa Rosa, California**

Date and Time	Sample ID	FID (ppmv)	TPHg (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Total Xylenes (ppmv)	MIBE (ppmv)
03/08/05	INF-1	900	900	<1.60	<1.30	<1.20	<1.20	13
03/08/05	INF-2	7000	2000	<3.10	<2.60	<2.30	2.30	31
03/09/05	INF-3	3000	840	<1.60	<1.30	<1.20	1.50	13
03/09/05	INF-4	4300	1500	<0.50	<0.50	<0.50	2.90	21
03/10/05	INF-5	1800	490	<1.60	<1.30	<1.20	<1.20	<7
03/10/05	INF-6	4000	1100	<1.60	<1.30	<1.20	1.30	16

**Explanations:**

FID = Flame Ionization Detector  
TPHg = Total Petroleum Hydrocarbons calculated as gasoline  
MIBE = Methyl tertiary butyl ether  
ppmv = Parts per million by volume  
< = Not detected at or above the method reporting limit specified

**Table 3**  
**Dual Phase Extraction System Emission Data**  
**76 (Former BP) Service Station No. 11249**  
**1300 Farmers Lane**  
**Santa Rosa, California**

Date	Well ID	Initial Depth (ft, bgs)	Final Depth (ft, bgs)	Change (ft)
3/8/2005	MW-2	9.94	10.95	1.01
3/8/2005	MW-4	9.14	9.94	0.8
3/8/2005	MW-7	9.88	10.51	0.63
3/8/2005	OB-1	9.5	10.35	0.85
3/9/2005	MW-2	10.77	11.01	0.24
3/9/2005	MW-4	9.5	9.59	0.09
3/9/2005	MW-7	10.19	10.27	0.08
3/9/2005	OB-1	9.75	9.92	0.17
3/10/2005	MW-2	10.81	11.03	0.22
3/10/2005	MW-4	9.59	10.13	0.54
3/10/2005	MW-7	10.27	10.64	0.37
3/10/2005	OB-1	10.32	10.36	0.04

**Notes:**  
 ft, bgs = Feet below ground surface  
 ft = feet

**Table 4**  
**Dual Phase Extraction System Estimated Mass Removal By Soil Vapor Extraction**  
 76 (Former BP) Service Station No. 11249  
 1300 Farmers Lane  
 Santa Rosa, California

Test Well (EX-1)	Date of Test	Hours Extracted (hours)	Well Field Flow Rate (scfm)	Influent Concentration (ppmv)	TPHg	Benzene			MIBE		
						Pounds Removed During Test {lbs}	Cumulative pounds Removed {lbs}	Influent Concentration (ppmv)	Pounds Removed During Test {lbs}	Cumulative pounds Removed {lbs}	Pounds Removed During Test {lbs}
INF-1 to INF-2	3/8/2005	9.9	28	1,450	6.7	6.7	<2.35	0.0	0.008	<22.00	0.1
INF-3 to INF-4	3/9/2005	10.1	28	1,170	5.6	12.3	<1.05	0.0	0.012	<17.00	0.1
INF-5 to INF-6	3/10/2005	10	28	795	3.7	16.0	<1.60	0.0	0.018	11.5	0.0
<b>TOTAL HOURS EXTRACTED:</b>		<b>30</b>									
<b>TOTAL POUNDS REMOVED:</b>					<b>Pounds TPHg</b>	<b>16.0</b>	<b>Pounds Benzene</b>	<b>0.02</b>	<b>Pounds MIBE</b>	<b>0.21</b>	
<b>TOTAL GALLONS REMOVED:</b>					<b>Gallons TPHg</b>	<b>2.6</b>	<b>Gallons Benzene</b>	<b>0.00</b>	<b>Gallons MIBE</b>	<b>0.03</b>	
<i>Explanations:</i>											
scfm = standard cubic feet per minute											
ppmv = parts per million by volume											
MIBE = Methyl tertiary butyl ether											
lbs = pounds											
TPHg = Total petroleum hydrocarbons as gasoline											
Density of benzene = 7.3 pounds per gallon											
Density of gasoline = 6.1 pounds per gallon											
Density of MIBE = 6.2 pounds per gallon											
Values reported as less than reporting limit were assumed to be zero for calculation purposes.											

**Table 5**  
**Dual Phase Extraction Groundwater Analytical Data**  
**76 (Former BP) Service Station No. 11249**  
**1300 Farmers Lane**  
**Santa Rosa, California**

Sample Identification	Sample Date	EPA Method 8260B					
		TPHg ug/L	Benzene ug/L	Toluene ug/L	Ethyl-Benzenes ug/L	Total Xylenes ug/L	MtBE ug/L
KO PRE	3/8/2005	1,000	1.8	14	5.5	15	150
KO POST	3/10/2005	510	0.51	0.95	0.53	11	77

**Notes:**  
EPA = Environmental Protection Agency  
KO = Knock out tank  
ug/L = micrograms per liter  
TPHg = Total petroleum hydrocarbons as gasoline  
MtBE = Methyl tertiary butyl ether

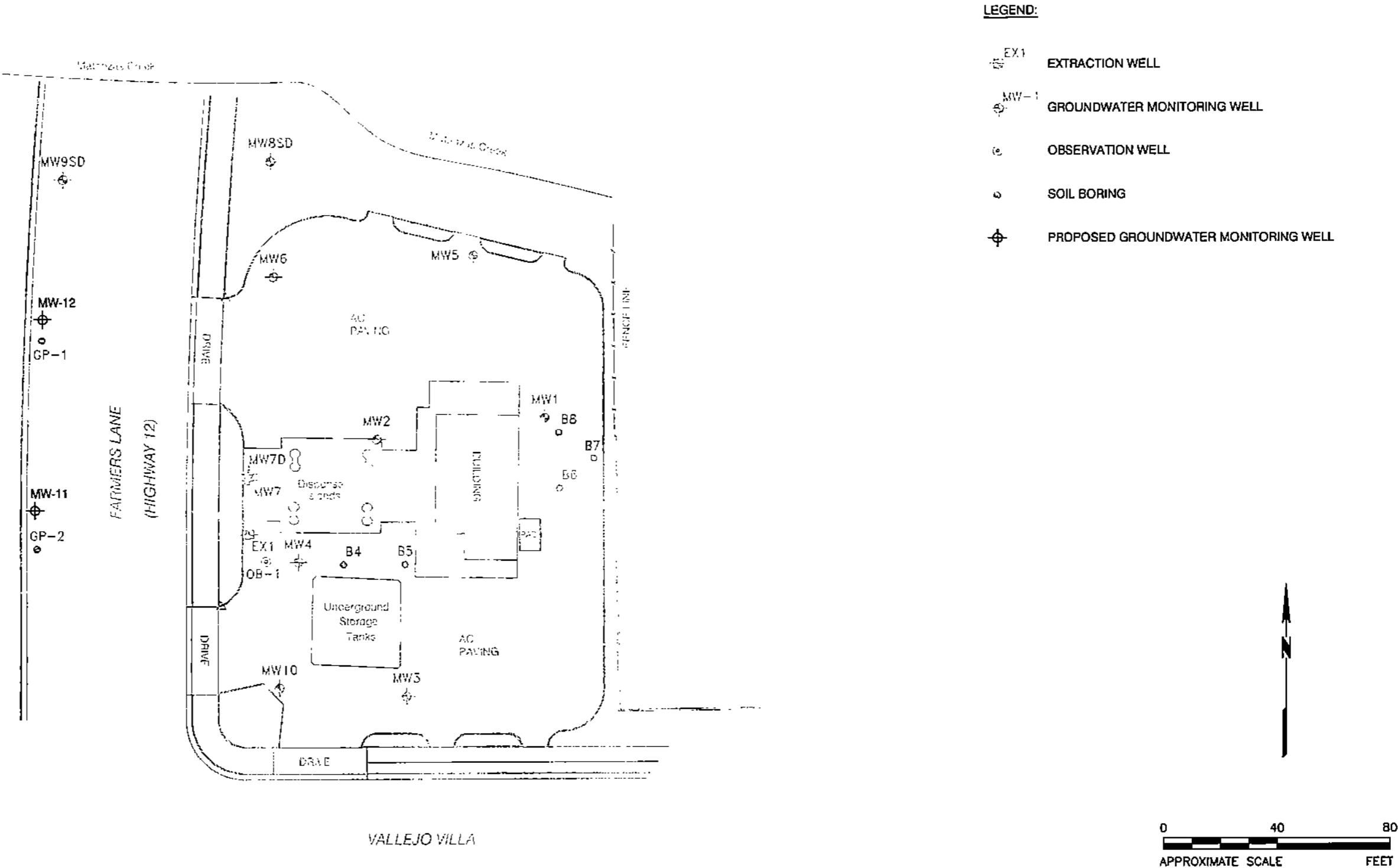
**Table 6**  
**Dual Phase Extraction Estimated Mass Removal By Groundwater Extraction**  
**76 (Former BP) Service Station No. 11249**  
**1300 Farmers Lane**  
**Santa Rosa, California**

Sample ID	Sample Date	Gallons Extracted	Cumulative Hours Extracted (hours)	Average Flow Rate (gpm)	TPHg Calculated		Benzene Calculated		MTBE Calculated	
					Influent Concentration (ug/l)	Net Removal Rate (lbs/day) <sup>a</sup>	Influent Concentration (ug/l)	Net Removal Rate (lbs/day)	Influent Concentration (ug/l)	Net Removal Rate (lbs/day)
KO PRE	03/08/05	1,920	15.1	2.12	1,000	0.03	0.016	1.8	4.62E-05	2.88E-05
KO POST	03/10/05	1,920	15.1	2.12	510	0.01	0.008	0.51	1.31E-05	8.17E-06
<b>TOTAL POUNDS REMOVED DURING TEST:</b>					<b>2.42E-02</b>		<b>3.70E-05</b>		<b>5.07E-06</b>	<b>9.29E-03</b>
<b>TOTAL GALLONS REMOVED DURING TEST:</b>					<b>3.90E-03</b>					<b>1.50E-03</b>
<b>Explanations:</b>										
gpm	= Gallons per minute									
ug/l	= Micrograms per liter									
TPHg	= Total petroleum hydrocarbons as gasoline									
lbs	= Pounds									
MTBE	= Methyl tertiary butyl ether									
KO	= Knock out tank									
<p><sup>a</sup> = Calculated removal rate is the influent concentration times the average flow rate.</p> <p><sup>b</sup> = Net removed is the calculated removal rate times the hours extracted.</p> <p><sup>c</sup> = Denis K. Burke Incorporated (MSDS NO. NL-1). Density used corresponds to weathered gasoline.</p> <p><sup>d</sup> = Phillips Petroleum Company (MSDS NO. 0041). Density used corresponds to Number 2 diesel fuel.</p> <p><sup>e</sup> = Amerada Hess Corporation (MSDS NO. 8957). Density used corresponds to 10W30 Valvoline motor oil.</p> <p><sup>f</sup> = CRC Handbook of Chemistry and Physics, 48th edition (1967-1968)</p> <p><sup>g</sup> = <a href="http://scifun.chem.wisc.edu/chemweek/mtbe/mtbe.html">http://scifun.chem.wisc.edu/chemweek/mtbe/mtbe.html</a></p>										

S E C O R

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**FIGURES**



SOURCE: DRAWING PREPARED FROM INFORMATION  
PROVIDED BY PREVIOUS CONSULTANTS. CRITICAL  
MEASUREMENTS ARE TO BE FIELD VERIFIED AND  
INCORPORATED INTO THE FINAL "AS-BUILT" DRAWINGS

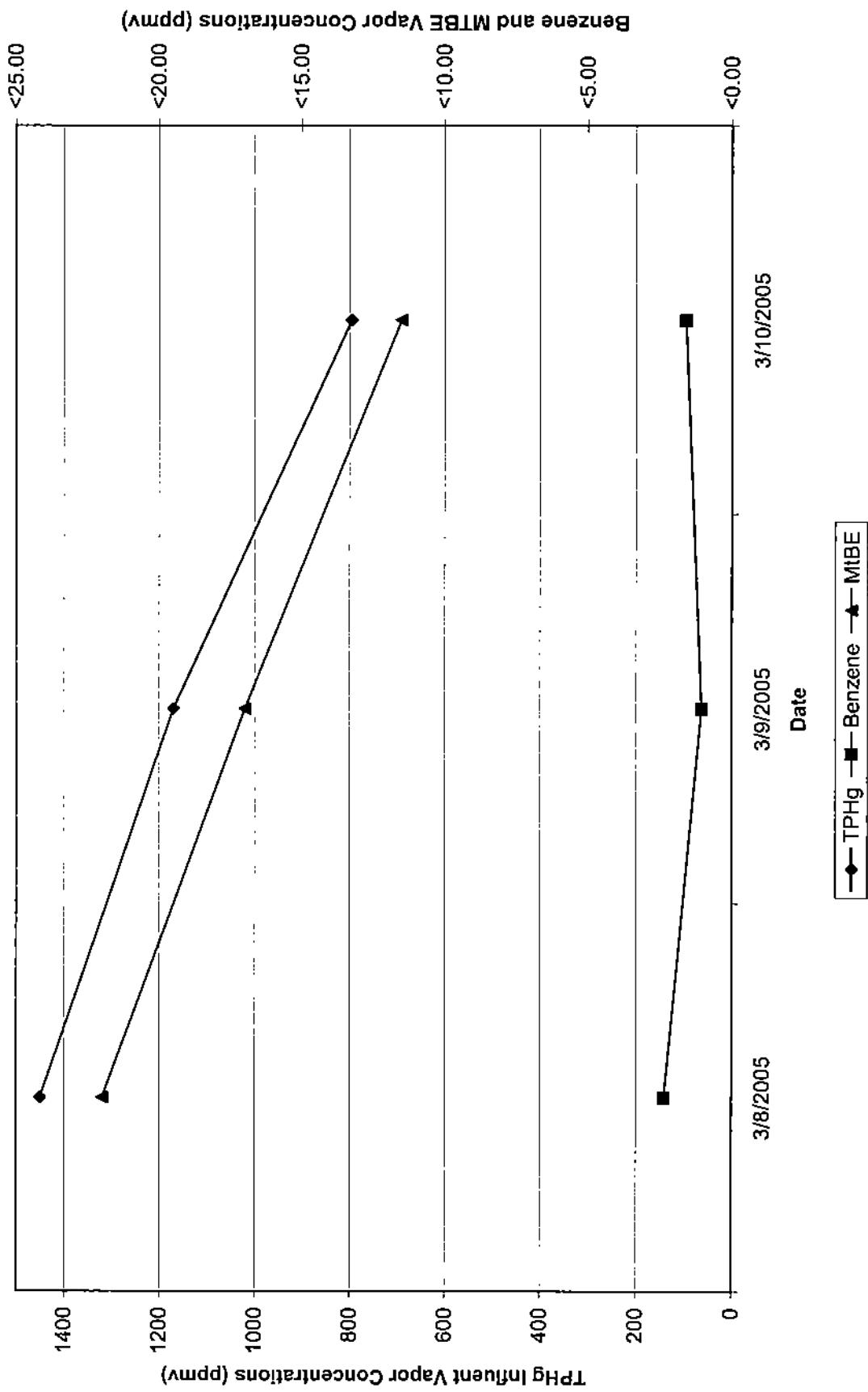
DRAWN BY: DWR  
CHECKED: RH  
APPROVED: RH  
DATE: 8/26/04 PR  
JOB NO.: 77CP.60249.02  
CAD FILE: PROPOSED

PREPARED BY:  
  
**SECOR**  
3017 KILGORE ROAD, SUITE 100  
RANCHO CORDOVA, CA 95670

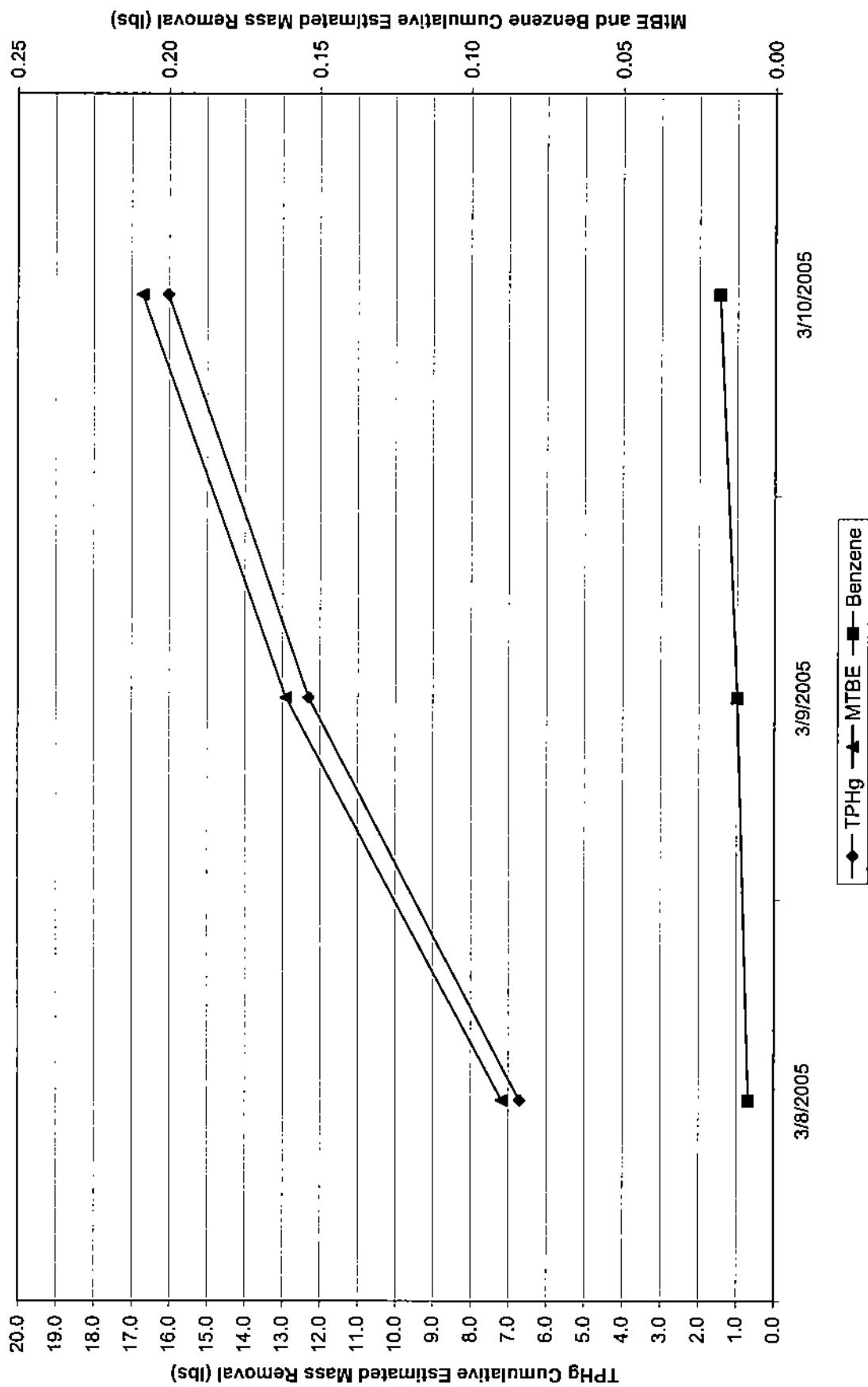
PREPARED FOR:  
76 (FORMER BP)  
SERVICE STATION NO. 11249  
1300 FARMERS LANE  
SANTA ROSA, CALIFORNIA

FIGURE 1  
SITE PLAN

**Figure 2**  
**Dual Phase Extraction Soil Vapor Influent Concentration Trends**  
76 (Former BP) Service Station No. 11249  
1300 Farmers Lane  
Santa Rosa, California



**Figure 3**  
**Dual Phase Extraction Estimated Mass Removal By Soil Vapor Extraction**  
 76 (Former BP) Service Station No. 11249  
 1300 Farmers Lane  
 Santa Rosa, California



**APPENDIX A**  
**REGULATORY CORRESPONDENCE**  
Pilot Dual Phase Extraction Summary Report  
76 (Former BP) Service Station No. 11249  
1300 Farmers Lane, Santa Rosa, CA  
77CP.60249.03.0001  
May 18, 2005



# California Regional Water Quality Control Board

## North Coast Region

William R. Massey, Chairman



Terry Tamminen  
Secretary for  
Environmental  
Protection

<http://www.wrcb.ca.gov/ewqcb>  
5550 Skyline Boulevard Suite A, Santa Rosa, California 95403  
Phone 1-877-721-9203 Office (707) 576-2220 FAX (707) 523-0135

Arnold  
Schwarzenegger  
Governor

December 20, 2004

Ms. Liz Sewell  
ConocoPhillips Company  
76 Broadway  
Sacramento, CA 95818

WESTERN REGION BOX

#9442

Store #	2705444	Date	12-20-04
Unit #	11249	Code	COR
Color <input type="checkbox"/>			
Description Work Plan Approved			

Dear Ms. Sewell

Subject: Comments of proposed scope of work  
File: BP #11249 (Mobil), 1300 Farmers Lane, Santa Rosa, Case No. 1TSR053

Regional Water Board staff has reviewed the September 3, 2004 "Proposal to Modify Remediation Plan and Work Plan for Additional Off-Site Assessment" (work plan) prepared for the subject site by SECOR International Incorporated. The work plan recommends additional off-site water quality assessment and remedial feasibility testing before implementing active remediation at the site. A scope of work is proposed to install two new off-site monitoring wells and to conduct a Dual-Phase Extraction (DPE) feasibility test to determine if DPE can effectively remediate petroleum hydrocarbons in the soil and groundwater beneath the site.

The work plan proposes that soil samples selected for laboratory analysis will be contained in 2-inch metal sleeves capped with Teflon® sheets and plastic end-caps. However, currently applicable protocols for the collection and handling of soil samples for volatile organic compound (VOC) analysis require either in-field sample preservation, or the use of hermetically sealed sample collection devices consistent with EPA Method 5035 (USEPA SW-846, Version III, 12/1996).

Regional Water Board staff concurs with the scope of work presented in the September 3, 2004 Work Plan with the provision that soil samples collected for VOC analyses must be handled and preserved using procedures and equipment consistent with EPA Method 5035.

Please inform our staff of the schedule for implementing the work plan at least ten days prior to commencing the fieldwork, but no later than December 31, 2004. Please contact me at (707) 576-2469 if you have any questions or comments.

Sincerely,

Jim Tischler  
Environmental Scientist

JAT clh\122004\_JAT\_BP#11249F.let

cc John Anderson, Sonoma County Environmental Health Department.

**California Environmental Protection Agency**

Recycled Paper

Ms Sewell

- 2 -

December 20, 2004

Mr M Gavan Heinrich, SECOR International Incorporated. 3017 Kilgore Road, Suite 100,  
Rancho Cordova, CA 95670  
Santa Rosa Fire Department, 955 Sonoma Avenue, Santa Rosa CA 95404

**APPENDIX B  
FIELD DATA SHEETS**

Pilot Dual Phase Extraction Summary Report  
76 (Former BP) Service Station No. 11249  
1300 Farmers Lane, Santa Rosa, CA  
77CP.60249.03.0001  
May 18, 2005

*SECOR International Incorporated*

## **HYDROLOGIC DATA SHEET**

Gauge Date: 3/7/65

**Project Name:** 76 Service Station #11249

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*1300 Farmers Lane*

*Santa Rosa, California*

**Field Technician:** 

**Project Number:** 77CP.60249.03.0001

**TOC = Top of Casing Elevation**

**DTP = Depth to Free Product (FP or NAPH) Below TOC**

**DTW = Depth to Groundwater Below TOC**

**DTW = Depth to Groundwater Below TOC**

DIA = Well Casing Diameter

DIA = Well Casing Diameter  
ELEV = Groundwater Elevation

DUP = Duplicate

## DPE PILOT TEST DATA (System Data)

Page \_\_\_\_ of \_\_\_\_

*D.A. #1*

Site Name: CP 11249

Address: 1300 Farmers Lane, Santa Rosa, California

Date	Time	Well Field				Dilution				Total System				Notes Extracting From Wells
		Well Manifold Vacuum (in. Hg)	Well Field Vapor Flow Rate (scfm)	Burner Temperature (°F)	(FID) Vapor Concentration (ppmv)	Dilution Air Flow Rate (scfm)	Dilution Air Vacuum (in. Hg)	Dilution Air Temperature (°F)	System Vacuum (scfm)	System (Blower) Vacuum (in. Hg)	System Vapor Temperature (°F)	System Hour Meter (hours)	System Totalizer Reading (gallons)	
3/8	9:15	25	30.9	50.5	14/30	2200	10.1	1.2	60.1	40.1	25	55.2	11702.3	7810 EX-1 S/40PT/EE AT 10'
3/8	8:50	26	31.7	50.5	14/30	2200	0	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
9:15	26	31.1	50.1	14/30	3200	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
9:40	26	31.7	50.7	14/30	3400	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
9:50	26	31.9	50.7	14/30	4000	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
9:40	26	30.9	50.0	14/17	4000	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
10:15	26	31.1	50.1	14/10	3700	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
10:30	26	31.2	50.9	14/12	3500	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
10:45	26	31.0	60.0	14/15	4700	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
11:00	26	31.5	60.0	14/12	4000	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
12:20	26	31.7	60.1	14/10	4100	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
12:50	26.5	29.5	60.2	14/17	8700	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
1:30	26.5	29.7	60.2	14/20	9500	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
2:30	26.5	32.0	60.2	14/11	9200	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
3:40	26.5	29.7	60.2	14/10	9000	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
4:45	26.5	29.5	60.3	14/1	7100	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
5:45	26.5	32.1	60.2	14/6	7000	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'
6:50	26.5	30.0	60.2	14/10	7000	0	—	—	—	—	—	—	—	EX-1 S/40PT/EE AT 10'

Explanations:  
 scfm = actual cubic feet per minute  
 ppm = gallons per minute  
 160°C = feet below top of easement  
 in. H<sub>2</sub>O = inches of Water  
 in. Hg = inches of mercury  
 °F = degrees Fahrenheit

Vapor concentrations are to be measured between the air/water separator and the liquid-ring blower (prior to dilution air inlet) using a flame-ionization detector (FID).

Burner Set Point

1400

Auto Dilution Set Point

1550

Burner Temperature Set Point

1700

Technician

Average 9pm 2.19 pm

Ex-1

S/40PT/EE

AT 10'

11

Explanations:  
# bTOC = feet below top of casing  
in. Hg = Inches of Mercury

May # 1

## DPE PILOT TEST DATA (System Data)

DM #2

Page \_\_\_\_ of \_\_\_\_

Site Name: CP 11249      Address: 1300 Farmers Lane, Santa Rosa, California

		Well Field		Dilution		Total System					
Date	Time	Well Field Vapor Flow Rate (scfm)	Well Field Vapor Temp (°F)	Burner Temperature (°F)	(FID) Vapor Concentration (ppmv)	Dilution Air Flow Rate (scfm)	Dilution Air Vacuum (in. Hg)	System Vapor Flow Rate (scfm)	System Vapor Temperature (°F)	System Totalizer Reading (gallons)	Notes Extracting From Well:
7/17	6:15 AM	21.5	30.7	50.5	14100	900	0	—	30.7	26.5	50.5 AT 34.1
	6:45	26.5	30.5	50.7	1412	2600	0	—	30.5	26.5	50.7
	7:00	26.5	31.0	50.9	1403	2700	0	—	31.0	26.5	50.9 Eff O.O.
	8:05	26.5	30.9	50.9	1410	3000	0	—	30.9	26.5	50.9 Sampled T 34.3
	9:00	26.5	30.7	50.9	1411	4000	0	—	30.7	26.5	50.9 Ex. 1 At 34.1
	10:10	26.5	30.9	60.1	1415	5100	0	—	30.9	26.5	60.1
	11:30	26.5	30.7	60.2	1417	5100	0	—	30.7	26.5	60.2
	12:35	26.5	31.1	60.2	1411	4600	0	—	31.1	26.5	60.2
	1:30	26.5	31.0	60.2	1410	4200	0	—	31.0	26.5	60.2
	2:35	26.5	30.9	60.3	1411	4300	0	—	30.9	26.5	60.3
	3:40	26.5	31.1	60.3	1408	4200	0	—	31.1	26.5	60.3
	4:40	26.5	31.0	60.2	1407	4300	0	—	31.0	26.5	60.2
	4:45	26.5	31.2	60.2	1408	4200	0	—	31.0	26.5	60.2
											AVERAGE 9PM 2.2 9PM
											Technician <u>DT</u>
											High Temperature Set Point <u>17 W</u>
											Burner Set Point <u>1 L/W</u>
											Auto Dilution Set Point <u>15 SD</u>

Explanations:  
 scfm = actual cubic feet per minute  
 gpm = gallons per minute  
 ftBOC = feet below top of casing  
 in. Hg = inches of mercury  
 °F = degrees Fahrenheit

Vapor concentrations are to be measured between the air/water separator and the liquid-ring blower (prior to dilution air inlet) using a flame-ionization detector (FID).

Day # 2

Site Name: CP 11249		Extraction Well: EX-1		Extraction Well:		Extraction Well:		Extraction Well:		Extraction Well:	
Date	Time	Manifold Valve Open (% open)	Drop Tube Vacuum (in. Hg)	Well Casing Vacuum (in. Hg)	Drop Tube Depth (ft bTOC)	Manifold Valve Open (% open)	Drop Tube Depth (ft bTOC)	Well Casing Vacuum (in. Hg)	Drop Tube Depth (ft bTOC)	Manifold Valve Open (% open)	Drop Tube Depth (ft bTOC)
7/1	6:20	/60	20	11.2	34	APX 9/19	2.0				
7/20	16:00	/20	11.1	34	..	2.2					
7/20	17:00	20	12.0	34	..	2.5					
7/21	17:00	20	12.0	54	..	2.5					
7/20	17:00	20	11.9	34	..	2.4					
7/20	17:00	20	11.9	34	..	2.3					
7/21	17:00	20	11.9	34	..	2.3					

Explanations:  
 ft bTOC = feet below top of casing  
 in. Hg = inches of Mercury

→ J. J. Allen 96

## DPE PILOT TEST DATA (Observ. Well Data)

Page \_\_\_\_ of \_\_\_\_

*W#2*

Site Name:		CP 11249		Address: 1300 Farmers Lane, Santa Rosa, California							
				Observation Wells							
		MW-2	MW-4	MW-7	QB-1	Distances from Extraction Well (feet)					
Date	Time	Depth to Water (ft bTOC)	Induced Vacuum (in. H <sub>2</sub> O)	Depth to Water (ft bTOC)	Induced Vacuum (in. H <sub>2</sub> O)	Depth to Water (ft bTOC)	Induced Vacuum (in. H <sub>2</sub> O)	Depth to Water (ft bTOC)	Induced Vacuum (in. H <sub>2</sub> O)	Depth to Water (ft bTOC)	Induced Vacuum (in. H <sub>2</sub> O)
3/1	6:03 AM	10.77	0	9.50	0	10.11	0	9.75	0	5754	0 FF
7/30	10:00	- .02	171	6	1620	0	10.01	0	5454	0 FF	
8/40	10:35	+ .01	9.80	0	1623	0	10.14	+.01	-	-	
9/15	10:37	+ .01	9.87	+.01	1631	0	10.18	-.09	-	-	
11/10	10:02	9.94	+.03	1041	0	1020	-.24	-	-	-	
12/15	10:55	+ .01	9.99	+.02	1050	0	10.24	-.20	-	-	
1/20	10:44	0	10.01	+.01	1051	0	10.25	-.07	-	-	
2/30	10:01	10.05	+.02	1055	0	10.29	-.10	-	-	-	
2/30	10:09	+.01	10.09	+.02	1058	6	10.51	-.11	-	-	
4/10	11:01	0	10.12	+.02	1062	0	1030	-.12	-	-	

Explanations:  
 ft bTOC = feet below top of casing  
 in. H<sub>2</sub>O = Inches of Water

The distances of the observation wells from the extraction well shall be measured prior to initiating the test.

DPE PILOT TEST DATA (System Data)

DRAFT #3

#### **Address:**

1300 Eastway Lane Santa Rosa California

Page \_\_\_\_\_ of \_\_\_\_\_



Site Name:	CP 11249	Address:	1300 Farmers Lane, Santa Rosa, California		
	Observation Wells				
	MW-1	MW-4	MW-7	OB-1	
Distances from Extraction Well (feet)					
	58	141	222	1/2	
Date	Time	Unbound Vaseline (in H <sub>2</sub> O)	Depth to Water (in H <sub>2</sub> O)	Induced Vaseline (in H <sub>2</sub> O)	Depth to Water (in H <sub>2</sub> O)
5/10	6:05 AM	10.81 + .01	9.59 - .01	10.27 0	9.92 - .02
		10.89 0	9.77 + .03	10.39 0	10.64 - .01
		10.95 + .01	10.01 + .08	10.50 0	10.33 + .02
		10.94 + .01	10.04 + .09	10.57 6	10.32 + .02
		11.01 + .02	10.07 + .07	10.61 6	10.34 - .02
		11.02 + .02	10.09 + .05	10.63 0	10.36 + .02
		11.01 + .03	10.14 + .06	10.62 0	10.35 + .02
		11.03 + .02	10.13 + .07	10.64 0	10.36 + .02
		Shot off 51st step	END	TE S1	

**APPENDIX C  
PERMITS**

Pilot Dual Phase Extraction Summary Report  
76 (Former BP) Service Station No. 11249  
1300 Farmers Lane, Santa Rosa, CA  
77CP.60249.03.0001  
May 18, 2005



SECOR  
INTERNATIONAL  
INCORPORATED

[www.secör.com](http://www.secör.com)  
3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95820  
916-861-0400 TEL  
916-861-0430 FAX

March 2, 2005

Robert Cave  
Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, California 94109

RE: **Notification of Dual Phase Extraction Test**  
ConocoPhillips Station #11249  
1300 Farmers Lane, Santa Rosa, California 95405  
SECOR Project No. 77CP.60249.00

Dear Mr. Cave:

SECOR International Incorporated (SECOR) is scheduled to conduct dual phase extraction (DPE) using the mobile treatment system (MTS) at ConocoPhillips Station #11249 at 1300 Farmers Lane in Santa Rosa, California, beginning on Tuesday, March 8, 2005 and ending on Thursday, March 10, 2005. The SECOR technician onsite will be Brian Henderson, who can be reached at (916) 825-4638.

DPE will be performed using a 25 horsepower (hp), 350 standard cubic feet per minute (scfm), liquid ring vacuum pump connected to a thermal oxidizer (therm-ox) used as the soil vapor abatement device. Extracted groundwater will be stored onsite, analyzed, and removed for treatment. The soil vapor treatment by thermal oxidation is rated at greater than 99% destruction efficiency and complies with Regulation 8, Rule 47, requiring at least 90% destruction efficiency. Technical statistics for the thermal oxidizer are included as Attachment A.

Physical and chemical parameters including applied vacuum, soil vapor extraction flow rates, soil vapor temperature, and Volatile Organic Compound (VOC) concentration measurements will be monitored throughout the DPE event. VOC concentrations will be measured using a Flame Ionization Detector (FID) or Photo Ionization Detector (PID).

If you have any questions regarding the information provided in this letter, please contact SECOR at (916) 861-0400.

Sincerely,  
**SECOR International Incorporated**

A handwritten signature in black ink, appearing to read "B. D." followed by a more cursive name.

Amy Draffan  
Staff Engineer



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

March 20, 2002

**SECOR International Inc**  
**3017 Kilgore Road, Ste 100**  
**Rancho Cordova, CA 95670**

Attention: Brice Hendricks

Application Number: 04036  
Plant Number: 13708  
Equipment Location:  
2301 Leghorn Street  
Mountain View, CA 94043

ALAMEDA COUNTY  
Roberta Cooper  
Scott Haggerty  
(Vice Chairperson)  
Nate Miley  
Sheila Young

CONTRA COSTA COUNTY  
Mark DeSaulnier  
Mark Ross  
Gayle Ulkema

MARIN COUNTY  
Harold C. Brown, Jr.

NAPA COUNTY  
Brad Wagenknecht

SAN FRANCISCO COUNTY  
Chris Daly  
Tony Hall  
Leland Yee

SAN MATEO COUNTY  
Jerry Hill  
Marland Townsend  
(Secretary)

SANTA CLARA COUNTY  
Randy Attaway  
(Chairperson)  
Liz Kniss  
Julia Miller  
Dena Mossar

SOLANO COUNTY  
William Carroll

SONOMA COUNTY  
Tim Smith  
Pamela Torlatt

Ellen Garvey  
AIR POLLUTION  
CONTROL OFFICER

Dear Applicant:

This is your Authority to Construct the following:

**S-1 Portable Dual Phase Extraction System consisting of a 360 max scfm Vacuum Blower, and ancillary equipment, abated by A-1, Thermal/Catalytic Oxidizer**

The equipment described above is subject to condition no. 18813.

**Notification**

Please contact your assigned Permit Engineer, listed in the correspondence section of this letter, by phone, by fax, or in writing at least three days before the initial operation of the equipment so that we may observe the equipment in operation and verify conformance with the Authority to Construct. Operation includes any start-up of the source for testing or other purposes. Operation of equipment without notification to the District may result in enforcement action. Do not send start-up notifications to the Air Pollution Control Officer.

**Start-up Period**

After receipt of the start-up letter required above, this Authority to Construct authorizes operation during the start-up period from the date of initial operation noted in your start-up letter until the Permit to Operate is issued, up to a maximum of 90 days. All conditions (specific or implied) of the Authority to Construct are in effect during the start-up period.

**Fees**

District Regulation 3 requires a fee for each new Permit to Operate. You will be invoiced upon receipt of your start-up letter. No permits will be issued until all outstanding fees are paid.

**Implied Conditions**

In the absence of specific permit conditions to the contrary, the throughputs, fuel and material consumption, capacities, and hours of operation described in your permit application will be considered maximum allowable limits. A new permit will be required before any increase in these parameters, or change in raw material handled, may be made.

**Expiration**

In accordance with Regulation 2-1-407, this Authority to Construct expires two years from the date of issuance unless substantial use of the authority has begun.

RECEIVED  
MAR 25 2002

**Confidentiality**

Unless you have already designated specifically identified materials in your permit application as confidential, under the California Public Records Act, all data in your permit application, the permit itself and all permit conditions will be considered a matter of public record and may be disclosed to a third party. Please contact your permit reviewer immediately if you wish to amend your permit application submittals or to designate certain permit conditions as confidential. Unless we hear from you within ten (10) calendar days of this letter, except for materials which have been previously designated as confidential, you shall be deemed to have waived any claim of confidentiality with respect to all materials in the District's files relating to this permit application.

**Right of Entry**

The Air Pollution Control Officer of the Bay Area Air Quality Management District, the Chairman of the California Air Resources Board, the Regional Administrator of the Environmental Protection Agency, and/or their designees, upon presentation of credentials, shall be granted the right of entry to any premises on which an air pollution source is located for the purposes of:

- A. The inspection of the source
- B. The sampling of materials used at the source
- C. The conduction of an emissions source test
- D. The inspection of any records required by District rule or permit condition.

**Correspondence**

Please include your application number with any correspondence with the District. The District's regulations may be viewed online at [www.baaqmd.gov/regs/rulereg.htm](http://www.baaqmd.gov/regs/rulereg.htm). If you have any questions on this matter, please call Robert E Cave, Air Quality Engineer II at (415) 749-5048. Startup information may be faxed to the Permit Division at 415-749-5030.

Very truly yours,

Ellen Garvey  
Air Pollution Control Officer



by  
Permit Services Division

BFB:REC:me  
Enclosure

COND# 18813 -----

Application 4036; Plant 13708  
SECOR International, Inc.  
Source S-1, Dual Phase Extraction System

1. The operator of this source shall notify the District at least 3 days prior to start-up of operation at any new location. The notification shall include:
  - a. Application Number (4036) & Plant Number (13708).
  - b. Street address, including zip code, for the location where the equipment will be operated.
  - c. The name and telephone number of a contact person where the equipment will be operated.
  - d. The date of initial start-up and estimated duration of operations at that location.
  - e. The distance from the source to the outer boundary of the nearest K-12 school, or indication that the distance is greater than 1500 feet.In the event that the start-up is delayed less than 5 days, the operator may provide telephone notice of said change to the assigned Plant Engineer in the Permit Services Division. If the start-up is delayed more than 5 days, written notification must be resubmitted.
2. This equipment shall not remain at any single location for a period in excess of 12 consecutive months, following the date of initial operation except as allowed under Section 2-1-220.10. If this portable equipment remains at any fixed location for more than 12 months, the portable permit will automatically revert to a conventional permanent location permit and will lose its portability.
3. This portable equipment, S-1, shall operate at all times in conformance with the eligibility requirements set forth in Regulation 2-1-220 for portable equipment.
4. This equipment is not to be operated within 1000 feet of the outer boundary of any K-12 school. Such operation will require the submittal of an application for a revised permit to operate so that the applicable requirements of the California Health and Safety Code Section 42301.6 may be met.
5. This equipment shall be used exclusively for the removal of non-chlorinated volatile organic compounds associated with petroleum products from extracted soil vapor. This shall be demonstrated by onsite sampling required in condition 10 below.
6. Precursor Organic Compound (POC) emissions from Source S-1 shall be abated by Abatement device A-1, Dual-mode oxidizer, during all periods of operation. Soil vapor flow rate shall not exceed 350 scfm.
7. The POC abatement efficiency of abatement device A-1 shall be maintained at a minimum of 98.5% by weight for inlet POC concentrations greater than or equal to 2000 ppmv (measured as C6). For inlet concentrations below 2000 ppmv and greater than or equal to 200 ppmv, a minimum abatement efficiency of 97% shall be maintained. For inlet concentrations below 200 ppmv, a minimum abatement efficiency of 90% shall be

- maintained. The minimum abatement efficiency shall be waived if outlet POC concentrations are shown to be less than 10 ppmv (measured as C6). In no event shall benzene emissions to the atmosphere exceed 0.250 pounds per day. Annual emissions of benzene shall not exceed 6.70 pounds per year.
8. While operating as a thermal oxidizer, the minimum operating temperature of A-1 shall not be less than 1400 degrees Fahrenheit. While operating as a catalytic oxidizer, the minimum operating temperature of A-1 shall not be less than 600 degrees Fahrenheit.
  9. To determine compliance with Condition Number 8, the dual-mode oxidizer shall be equipped with continuous measuring and temperature recording instrumentation. The temperature data collected from the temperature recorder shall be maintained in a file which shall be available for District inspection for a period of at least 2 years following the date on which such data are recorded.
  10. To determine compliance with Condition 7, within 24 hours after start-up of the thermal/catalytic oxidizer at any new location, and within 24 hours of conversion from thermal to catalytic mode at an existing location, the operator of this source shall:
    - a. Analyze the inlet gas to determine the vapor flow rate and concentration of POC present.
    - b. Analyze exhaust gas to determine the flow rate, and the concentration of benzene and POC present.
    - c. Calculate the benzene emission rate in pounds per day based on the exhaust gas analysis and the operating exhaust flow rate. The soil vapor flow rate shall be decreased, if necessary, to demonstrate compliance with Condition 7.
    - d. Calculate the POC abatement efficiency based on the inlet and outlet gas sampling analysis. For the purpose of determining compliance with condition 7, the POC concentration shall be reported as hexane.
    - e. Submit to the District's Permit Services Division the test results and emission calculations within one month from the testing date. Samples shall be analyzed according to modified EPA test methods 8015 and 8021 or their equivalent to determine the concentrations of POC and benzene.
  11. Within 30 days from the completion of each treatment operation at a given location, the operator of this source shall provide the assigned Plant Engineer in the Permit Services Division with a summary showing the following information:
    - a. The dates and total number of days that the equipment was at that location and the dates, and total number of days that the equipment was operated at that location.
    - b. A summary of the abatement efficiency and benzene emission rate as determined and reported in the start-up sampling report required by condition 10e above.
    - c. The results of any additionally performed emission test, analysis, or monitoring result logged in for the day of operation they were taken.

- d. The total throughput of contaminated soil vapor processed by S-1 at that location (indicated in cubic feet).
  - e. The total emissions of benzene at that location based on the sampling results required by conditions 10 above (indicated in pounds).
12. Within 30 days after the end of every calendar year, the operator of this source shall provide the assigned Plant Engineer in the Permit Services Division a year end summary showing the following information:
- a. The location(s) at which the equipment was operated including the dates operated at each location.
  - b. The total throughput of contaminated soil vapor for the previous four quarters (indicated in cubic feet).
  - c. The total benzene emissions for the previous four quarters (indicated in pounds).
13. The operator shall maintain a file containing all measurements, records and other data that are required to be collected pursuant to the various provisions of this conditional Permit to Operate. All measurements, records and data required to be maintained by the operator shall be retained for at least two years following the date the data is recorded.
14. Any non-compliance with these conditions shall be reported to the Compliance and Enforcement Division at the time that it is first discovered. The submittal shall detail the corrective action taken and shall include the data showing the exceedance as well as the time of occurrence.

**APPENDIX D  
PURGE WATER DISPOSAL R149**

Pilot Dual-Phase Extraction Summary Report  
Former British Petroleum Service Station No. 11249  
1300 Farmers Lane, Santa Rosa, CA  
77CP.60249.03.0001  
May 3, 2005

04/11/2005 13:11 5102454604

CONOCOPHILLIPS

PAGE 82

<b>WATER QUALITY &amp; COMPLIANCE</b>		Remediation Wastewater from Petroleum Product Facilities	
Responsible Dept: ESD	Orig. Issue: 12/1/94	Latest Revision: 12/17/03	Page: 1

**Form R-149: Authorization for Receipt of Remediation Wastewater @ ConocoPhillips's San Francisco Refinery at Rodeo**

**WASTEWATER TREATMENT PLANT (UNIT 100) OPERATORS:**

This form below, if approved, serves as an acceptance document to process the wastewater at the San Francisco Refinery Wastewater Treatment Plant, Unit 100. The Requester is required to supply all of the necessary analytical and completely fill out the following table:

Requester's Name/Signature:	Ed Ralston	Signature
Company:	ConocoPhillips	Date of Request: 4/4/2005
Address:	76 Broadway, Sacramento, CA 95818	
Telephone/Fax:	Phone: 916-558-7633	FAX: 916-558-7639
Station No. and Location:	COP #2611249, 1300 Farmers Lane, Santa Rosa, CA	
Description of Water Source:	Purge Water - DPE test	
Total Volume of Water/Solids Expected:	Water: 5,000 gallons	Solids: minimal
Expected per-Delivery Volume/Frequency:	Volume: 5,000 gallons	Frequency: one time discharge
Pesticides/Fish Toxicity Expected:	Pesticide Yes <input checked="" type="radio"/> No <input type="radio"/>	Fish Toxic Yes <input type="radio"/> No <input checked="" type="radio"/>
Maximum Rate of Disposal (ESD)	Gallons per Week	

The remediation wastewater described above has been reviewed for Federal and California Hazardous Waste characteristics.

This water is (circle one):  recommended / not recommended for processing at the WWTP.

This form is valid until:

ESD Signature:

Date Recommended:

Operations Signature:

Date Approved:

**TRUCK DRIVERS:** Please provide a copy of this R-149 form upon delivery of wastewater to Unit 100.

Driver's Info:

Truck No. _____	pH at site _____
-----------------	------------------

**UNIT 100 OPERATORS:** Please fill out the portion below and forward this completed form to ESD in Room 111 of the Administration Building.

Date and time of delivery:

Delivered on: ____ / ____ / ____	@ ____ AM / PM
----------------------------------	----------------

Volume delivered:

gallons or ____ bbl	pH _____
---------------------	----------

**NO FREE PRODUCT ACCEPTED**

**GRAVITY OFF-LOAD ONLY**

Any questions? Call: (510) 245-4403, (510) (510) 245-4465 or FAX (510) 245-4476.  
 ONYX/Mark Laliberte: FAX: (707) 745-0510; DIRECT: (707) 748-3722; CELL: (510) 715-6532  
 TRC: Dennis Jensen; 21 Technology Drive, Irvine, CA 92618; (949) 753-0101 (office); (949) 753-0111 (fax); djensen@tresolutions.com

**S E C O R**

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**APPENDIX D**  
**CERTIFIED LABORATORY ANALYTICAL REPORTS AND**  
**CHAIN-OF-CUSTODY DOCUMENTATION**

Pilot Dual Phase Extraction Summary Report

76 (Former BP) Service Station No. 11249

1300 Farmers Lane, Santa Rosa, CA

77CP.60249.03.0001

May 18, 2005

**SECOR-Sacramento**

March 25, 2005

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670

Attn.: Amy Draffan

Project#: 77CP.601249.03.0001

Project: Conoco Philips Site #11249

Site: 1300 Farmers Lane, Santa Rosa, California

Attached is our report for your samples received on 03/10/2005 09:15

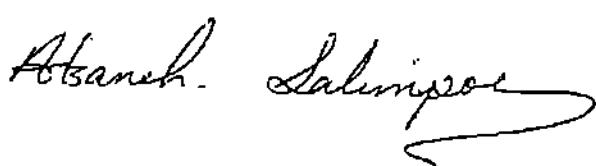
This report has been reviewed and approved for release. Reproduction of this report  
is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after  
04/24/2005 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions,  
please call me at (925) 484-1919.

You can also contact me via email. My email address is: [asalimpour@stl-inc.com](mailto:asalimpour@stl-inc.com)

Sincerely,



Afsaneh Salimpour  
Project Manager

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

## Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
INF-1	03/08/2005 11:00	Air	1
INF-2	03/08/2005 05:45	Air	2
INF-3	03/09/2005 08:05	Air	3
INF-4	03/09/2005 09:00	Air	4

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

---

Prep(s):	5030	Test(s):	8015M
	5030		8021B
Sample ID:	INF-1	Lab ID:	2005-03-0325 - 1
Sampled:	03/08/2005 11:00	Extracted:	3/11/2005 09:26
Matrix:	Air	QC Batch#:	2005/03/11-01.05
Analysis Flag: L2 ( See Legend and Note Section )			

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	900	70	ppmv	5.00	03/11/2005 09:26	Q1
Benzene	ND	1.6	ppmv	5.00	03/11/2005 09:26	
Toluene	ND	1.3	ppmv	5.00	03/11/2005 09:26	
Ethyl benzene	ND	1.2	ppmv	5.00	03/11/2005 09:26	
Xylene(s)	ND	1.2	ppmv	5.00	03/11/2005 09:26	
MTBE	13	7.0	ppmv	5.00	03/11/2005 09:26	
<i>Surrogate(s)</i>						
Trifluorotoluene	117.8	58-124	%	5.00	03/11/2005 09:26	
4-Bromofluorobenzene-FID	92.3	50-150	%	5.00	03/11/2005 09:26	

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

---

Prep(s):	5030 5030	Test(s):	8015M 8021B
Sample ID:	INF-2	Lab ID:	2005-03-0325 - 2
Sampled:	03/08/2005 05:45	Extracted:	3/11/2005 09:59
Matrix:	Air	QC Batch#:	2005/03/11-01.05

Analysis Flag: L2,H1 ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	2000	140	ppmv	10.00	03/11/2005 09:59	Q1
Benzene	ND	3.1	ppmv	10.00	03/11/2005 09:59	
Toluene	ND	2.6	ppmv	10.00	03/11/2005 09:59	
Ethyl benzene	ND	2.3	ppmv	10.00	03/11/2005 09:59	
Xylene(s)	2.3	2.3	ppmv	10.00	03/11/2005 09:59	
MTBE	31	14	ppmv	10.00	03/11/2005 09:59	
<i>Surrogate(s)</i>						
Trifluorotoluene	123.4	58-124	%	10.00	03/11/2005 09:59	
4-Bromofluorobenzene-FID	90.7	50-150	%	10.00	03/11/2005 09:59	

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

---

Prep(s): 5030    Test(s): 8015M  
                  5030    8021B  
Sample ID: INF-3    Lab ID: 2005-03-0325 - 3  
Sampled: 03/09/2005 08:05                                  Extracted: 3/11/2005 10:31  
Matrix: Air    QC Batch#: 2005/03/11-01.05

Analysis Flag: L2 ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	840	70	ppmv	5.00	03/11/2005 10:31	Q1
Benzene	ND	1.6	ppmv	5.00	03/11/2005 10:31	
Toluene	ND	1.3	ppmv	5.00	03/11/2005 10:31	
Ethyl benzene	ND	1.2	ppmv	5.00	03/11/2005 10:31	
Xylene(s)	1.5	1.2	ppmv	5.00	03/11/2005 10:31	
MTBE	13	7.0	ppmv	5.00	03/11/2005 10:31	
<i>Surrogate(s)</i>						
4-Bromofluorobenzene	111.3	50-150	%	5.00	03/11/2005 10:31	
4-Bromofluorobenzene-FID	93.5	50-150	%	5.00	03/11/2005 10:31	

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

---

Prep(s):	5030 5030	Test(s):	8015M 8021B
Sample ID:	INF-4	Lab ID:	2005-03-0325 - 4
Sampled:	03/09/2005 09:00	Extracted:	3/11/2005 11:04
Matrix:	Air	QC Batch#:	2005/03/11-01.05

Analysis Flag: L2 ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	1500	70	ppmv	5.00	03/11/2005 11:04	Q1
Benzene	ND	1.6	ppmv	5.00	03/11/2005 11:04	
Toluene	ND	1.3	ppmv	5.00	03/11/2005 11:04	
Ethyl benzene	ND	1.2	ppmv	5.00	03/11/2005 11:04	
Xylene(s)	2.9	1.2	ppmv	5.00	03/11/2005 11:04	
MTBE	21	7.0	ppmv	5.00	03/11/2005 11:04	
<i>Surrogate(s)</i>						
Trifluorotoluene	65.5	58-124	%	5.00	03/11/2005 11:04	
4-Bromofluorobenzene-FID	102.9	50-150	%	5.00	03/11/2005 11:04	

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

## Batch QC Report

Prep(s): 5030	Test(s): 8015M
5030	8021B
Method Blank	Water
MB: 2005/03/11-01.05-001	QC Batch # 2005/03/11-01.05
	Date Extracted: 03/11/2005 07:16

Compound	Conc.	RL	Unit	Analyzed	Flag
GRO (C6-C12)	ND	50	ug/L	03/11/2005 07:16	
Benzene	ND	0.5	ug/L	03/11/2005 07:16	
Toluene	ND	0.5	ug/L	03/11/2005 07:16	
Ethyl benzene	ND	0.5	ug/L	03/11/2005 07:16	
Xylene(s)	ND	0.5	ug/L	03/11/2005 07:16	
MTBE	ND	5.0	ug/L	03/11/2005 07:16	
<i>Surrogates(s)</i>					
Trifluorotoluene	110.2	58-124	%	03/11/2005 07:16	
4-Bromofluorobenzene-FID	90.8	50-150	%	03/11/2005 07:16	

**Gas/BTEX Compounds by 8015M/8021**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

---

**Batch QC Report**

---

Prep(s): 5030

Test(s): 8021B

**Laboratory Control Spike****Water****QC Batch # 2005/03/11-01.05**LCS 2005/03/11-01.05-002  
LCSD

Extracted: 03/11/2005

Analyzed: 03/11/2005 07:48

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		Rec.	RPD	LCS	LCSD
Benzene	55.7		50.0	111.4			77-123	20		
Toluene	55.7		50.0	111.4			78-122	20		
Ethyl benzene	56.6		50.0	113.2			70-130	20		
Xylene(s)	167		150	111.3			75-125	20		
<b>Surrogates(s)</b>										
Trifluorotoluene	536		500	107.2			58-124			

**Gas/BTEX Compounds by 8015M/8021**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001

Received: 03/10/2005 09:15

Conoco Philips Site #11249

Site: 1300 Farmers Lane, Santa Rosa, California

---

**Batch QC Report**

---

Prep(s): 5030

Test(s): 8015M

**Laboratory Control Spike****Water****QC Batch # 2005/03/11-01.05**LCS 2005/03/11-01.05-003  
LCSD

Extracted: 03/11/2005

Analyzed: 03/11/2005 08:21

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		Rec.	RPD	LCS	LCSD
GRO (C6-C12)	257		250	102.8			75-125	20		
<i>Surrogates(s)</i> 4-Bromofluorobenzene-FID	444		500	88.8			50-150			

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

## Batch QC Report

Prep(s): 5030

Test(s): 8021B

## Matrix Spike ( MS / MSD )

## Water

QC Batch # 2005/03/11-01.05

MS/MSD

Lab ID: 2005-03-0087 - 001

MS: 2005/03/11-01.05-015

Extracted: 03/11/2005

Analyzed: 03/11/2005 16:24

MSD: 2005/03/11-01.05-016

Extracted: 03/11/2005

Dilution: 1.00

Analyzed: 03/11/2005 16:59

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level ug/L	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Benzene	57.4	56.1	ND	50.0	114.8	112.2	2.3	65-135	20		
Toluene	57.9	57.2	ND	50.0	115.8	114.4	1.2	65-135	20		
Ethyl benzene	58.1	57.4	ND	50.0	116.2	114.8	1.2	65-135	20		
Xylene(s)	171	171	ND	150	114.0	114.0	0.0	65-135	20		
<i>Surrogate(s)</i>											
Trifluorotoluene	572	555		500	114.4	111.0		58-124			

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Phillips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

## Batch QC Report

Prep(s): 5030

Test(s): 8015M

## Matrix Spike ( MS / MSD )

## Water

QC Batch # 2005/03/11-01.05

MS/MSD

Lab ID: 2005-03-0087 - 002

MS: 2005/03/11-01.05-018

Extracted: 03/11/2005

Analyzed: 03/11/2005 18:05

MSD: 2005/03/11-01.05-019

Extracted: 03/11/2005

Dilution: 1.00

Analyzed: 03/11/2005 18:38

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample		ug/L	MS	MSD	RPD	Rec.	RPD	MS
GRO (C6-C12)	240	226	56.0	250	73.6	68.0	7.9	65-135	20		
Surrogate(s) Trifluorotoluene-FID	492			500	98.4			58-124			

**Gas/BTEX Compounds by 8015M/8021**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001

Received: 03/10/2005 09:15

Conoco Philips Site #11249

Site: 1300 Farmers Lane, Santa Rosa, California

---

**Legend and Notes**

---

**Analysis Flag**

H1

Extracted out of holding time.

L2

Reporting limits were raised due to high level of analyte present  
in the sample.

**Result Flag**

Q1

Quantit. of unknown hydrocarbon(s) in sample based on gasoline.

## STL-San Francisco

## ConocoPhillips Chain Of Custody Record

JC 335C

1220 Quarry Lane

Pleasanton, CA 94565

(925) 484-1919 (925) 484-1096 fax

(925) 484-1919 (925) 484-1096 fax

SECOR International Inc

Address:

3017 Kilgore Rd Suite 100, Roncho Cordova, CA 95670

Product Contact Name: [or PDF Report No]:

Amy Drafian

Telephone:

(916) 861-0400 x 235

Fax:

(916) 861-0430

Email:

info@secor.com

Sampler Name(s) [Phone]:

CONSULTANT PRODUCT NUMBER:

TTC-P-601240.03.0001

Turnaround Time (Calendar Days):

 14 days  7 days  2 hours  24 hours  less than 24 hours

SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF EDDIS IS USED

ConocoPhillips Site Manager:

INVOICE REMITTANCE ADDRESS:

ConocoPhillips

Attn: Dan Hutchinson

3011 South Harbor, Suite 200

Santa Rosa, CA 95401

EDD DELIVERABLE TO [PDF or Document]

Amy Drafian

Phone:

(916) 861-0400 ext 235

Email:

info@secor.com

Sample ID No.:

11249

GLASS ID No.:

1125

8015m - TPHd Extractable

8260B - TPHg/BTEX/MBE

8260B - TPHg / BTEX / 8 Oxygenates

8260B - TPHg / BTEX / 8 oxygenates + methanol (8015M)

8260B - Full Scan VOCs (does not include oxygenates)

8270C - Semi-Volatiles

8015M / 8021B - TPHg/BTEX/MBE

Lead  Total  STLC  TCLP

80181 Pesticides

RCI

CAM17 Metals

Total Sulfides

Total Cyanide

## REQUESTED ANALYSES

## FIELD NOTES:

Container/Preservative  
or PID Readings  
or Laboratory NotesTEMPERATURE ON RECEIPT OF  
19°C

Reprint of Sample ID

Handwritten by [Signature]

Printed by [Signature]

Reprint of Sample ID

Handwritten by [Signature]

Printed by [Signature]

Reprint of Sample ID

Handwritten by [Signature]

Printed by [Signature]

Reprint of Sample ID

Handwritten by [Signature]

Printed by [Signature]

Reprint of Sample ID

Handwritten by [Signature]

Printed by [Signature]

SECOR-Sacramento

March 28, 2005

3017 Kilgore Road, Suite 100

Rancho Cordova, CA 95670

Attn.: Amy Draffan

Project#: 77CP.601249.03.0001

Project: Conoco Philips Site #11249

Site: 1300 Farmers Lane, Santa Rosa, California

Attached is our report for your samples received on 03/11/2005 09:20

This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 04/25/2005 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.

You can also contact me via email. My email address is: [asalimpour@stl-inc.com](mailto:asalimpour@stl-inc.com)

Sincerely,



Afsaneh Salimpour  
Project Manager

**Gas/BTEX Compounds by 8015M/8021**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/11/2005 09:20

Site: 1300 Farmers Lane, Santa Rosa, California

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
INF-5	03/10/2005 05:00	Air	1
INF-6	03/10/2005 13:50	Air	2

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/11/2005 09:20

Site: 1300 Farmers Lane, Santa Rosa, California

Prep(s): 5030    Test(s): 8015M  
    5030    8021B  
Sample ID: INF-5                                      Lab ID: 2005-03-0377 - 1  
Sampled: 03/10/2005 05:00                            Extracted: 3/11/2005 11:37  
Matrix: Air    QC Batch#: 2005/03/11-01.05

Analysis Flag: L1 ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	490	70	ppmv	5.00	03/11/2005 11:37	Q1
Benzene	ND	1.6	ppmv	5.00	03/11/2005 11:37	
Toluene	ND	1.3	ppmv	5.00	03/11/2005 11:37	
Ethyl benzene	ND	1.2	ppmv	5.00	03/11/2005 11:37	
Xylene(s)	ND	1.2	ppmv	5.00	03/11/2005 11:37	
MTBE	ND	7.0	ppmv	5.00	03/11/2005 11:37	
<b>Surrogate(s)</b>						
Trifluorotoluene	117.3	58-124	%	5.00	03/11/2005 11:37	
4-Bromofluorobenzene-FID	84.6	50-150	%	5.00	03/11/2005 11:37	

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Phillips Site #11249

Received: 03/11/2005 09:20

Site: 1300 Farmers Lane, Santa Rosa, California

Prep(s):	5030 5030	Test(s):	8015M 8021B
Sample ID:	INF-6	Lab ID:	2005-03-0377 - 2
Sampled:	03/10/2005 13:50	Extracted:	3/11/2005 12:10
Matrix:	Air	QC Batch#:	2005/03/11-01.05
Analysis Flag: L1 ( See Legend and Note Section )			

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	1100	70	ppmv	5.00	03/11/2005 12:10	Q1
Benzene	ND	1.6	ppmv	5.00	03/11/2005 12:10	
Toluene	ND	1.3	ppmv	5.00	03/11/2005 12:10	
Ethyl benzene	ND	1.2	ppmv	5.00	03/11/2005 12:10	
Xylene(s)	1.3	1.2	ppmv	5.00	03/11/2005 12:10	
MTBE	16	7.0	ppmv	5.00	03/11/2005 12:10	
<i>Surrogate(s)</i>						
Trifluorotoluene	108.5	58-124	%	5.00	03/11/2005 12:10	
4-Bromofluorobenzene-FID	95.9	50-150	%	5.00	03/11/2005 12:10	

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/11/2005 09:20

Site: 1300 Farmers Lane, Santa Rosa, California

---

**Batch QC Report**

---

Prep(s): 5030  
5030Test(s): 8015M  
8021B**Method Blank****Water****QC Batch # 2005/03/11-01.05**

MB: 2005/03/11-01.05-001

Date Extracted: 03/11/2005 07:16

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	03/11/2005 07:16	
Benzene	ND	0.5	ug/L	03/11/2005 07:16	
Toluene	ND	0.5	ug/L	03/11/2005 07:16	
Ethyl benzene	ND	0.5	ug/L	03/11/2005 07:16	
Xylene(s)	ND	0.5	ug/L	03/11/2005 07:16	
MTBE	ND	5.0	ug/L	03/11/2005 07:16	
<b>Surrogates(s)</b>					
Trifluorotoluene	110.2	58-124	%	03/11/2005 07:16	
4-Bromofluorobenzene-FID	90.8	50-150	%	03/11/2005 07:16	

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Phillips Site #11249

Received: 03/11/2005 09:20

Site: 1300 Farmers Lane, Santa Rosa, California

---

**Batch QC Report**

---

Prep(s): 5030

Test(s): 8021B

**Laboratory Control Spike****Water****QC Batch # 2005/03/11-01.05**LCS 2005/03/11-01.05-002  
LCSD

Extracted: 03/11/2005

Analyzed: 03/11/2005 07:48

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		Rec.	RPD	LCS	LCSD
Benzene	55.7		50.0	111.4			77-123	20		
Toluene	55.7		50.0	111.4			78-122	20		
Ethyl benzene	56.6		50.0	113.2			70-130	20		
Xylene(s)	167		150	111.3			75-125	20		
<b>Surrogates(s)</b>										
Trifluorotoluene	536		500	107.2			58-124			

## Gas/BTEX Compounds by 8015M/8021

Submission: 2005-03-0377

Submission: 2005-03-0377

Submission: 2005-03-0377

SECOR-Sacramento  
Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430  
Project: 77CP.601249.03.0001  
Conoco Phillips Site #11249

Received: 03/11/2005 09:20

Site: 1300 Farmers Lane, Santa Rosa, California

## Batch QC Report

Test(s): 8015M

Prep(s): 5030

## Laboratory Control Spike

Water

QC Batch # 2005/03/11-01.05

LCS 2005/03/11-01.05-003

Extracted: 03/11/2005

Analyzed: 03/11/2005 08:21

LCSD

Compound	Conc.	ug/L	Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Gasoline	257		250	102.8			75-125	20		
Surrogates(s)	444		500	88.8			50-150			

15M/8021

03/11/2005 09:20

1 Farmers Lane, Santa Rosa, California

Santa Rosa, California

Test(s): 8021B

Test(s): 8015M

QC Batch # 2005/03/11-01.05

Batch # 2005/03/11-01.05

Lab ID: 2005-03-0087 - 001  
Analyzed: 03/11/2005 16:24  
Dilution: 1.00  
Analyzed: 03/11/2005 16:59  
Dilution: 1.00

2005-03-0087 - 002

03/11/2005 18:05

1.00

03/11/2005 18:38

1.00

Recovery %	Limits %		Flags		
	RPD	Rec.	RPD	MS	MSD
.2	2.3	65-135	20		
.4	1.2	65-135	20		
.8	1.2	65-135	20		
0	0.0	65-135	20		
0	58-124				

RPD	Flags	
	MS	MSD

03/19/2005 13:53

03/19/2005 13:53

03/19/2005 13:53

**Gas/BTEX Compounds by 8015M/8021**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100

Rancho Cordova, CA 95670

Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001

Received: 03/11/2005 09:20

Conoco Philips Site #11249

Site: 1300 Farmers Lane, Santa Rosa, California

---

**Legend and Notes**

---

**Analysis Flag**

L1

Reporting limits raised due to high level of non-target analyte materials.

**Result Flag**

Q1

Quantit. of unknown hydrocarbon(s) in sample based on gasoline.

03/19/2005 13:53

Severn Trent Laboratories, Inc.

STL San Francisco • 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 • [www.stl-inc.com](http://www.stl-inc.com) • CA DHS ELAP# 2496

SECOR-Sacramento

March 25, 2005

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670

Attn.: Amy Draffan

Project#: 77CP.601249.03.0001

Project: Conoco Philips Site #11249

Site: 1300 Farmers Lane, Santa Rosa, California

Attached is our report for your samples received on 03/10/2005 09:15

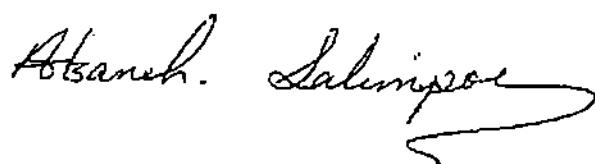
This report has been reviewed and approved for release. Reproduction of this report  
is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after  
04/24/2005 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions,  
please call me at (925) 484-1919.

You can also contact me via email. My email address is: [asalimpour@stl-inc.com](mailto:asalimpour@stl-inc.com)

Sincerely,



Afsaneh Salimpour  
Project Manager

**Gas/BTEX Compounds by 8015M/8021**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
INF-1	03/08/2005 11:00	Air	1
INF-2	03/08/2005 05:45	Air	2
INF-3	03/09/2005 08:05	Air	3
INF-4	03/09/2005 09:00	Air	4

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

---

Prep(s): 5030 Test(s): 8015M  
5030 8021B  
Sample ID: INF-1 Lab ID: 2005-03-0325 - 1  
Sampled: 03/08/2005 11:00 Extracted: 3/11/2005 09:26  
Matrix: Air QC Batch#: 2005/03/11-01.05  
Analysis Flag: L2 ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	900	70	ppmv	5.00	03/11/2005 09:26	Q1
Benzene	ND	1.6	ppmv	5.00	03/11/2005 09:26	
Toluene	ND	1.3	ppmv	5.00	03/11/2005 09:26	
Ethyl benzene	ND	1.2	ppmv	5.00	03/11/2005 09:26	
Xylene(s)	ND	1.2	ppmv	5.00	03/11/2005 09:26	
MTBE	13	7.0	ppmv	5.00	03/11/2005 09:26	
<i>Surrogate(s)</i>						
Trifluorotoluene	117.8	58-124	%	5.00	03/11/2005 09:26	
4-Bromofluorobenzene-FID	92.3	50-150	%	5.00	03/11/2005 09:26	

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

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Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

---

Prep(s):	5030	Test(s):	8015M
	5030		8021B
Sample ID:	INF-2	Lab ID:	2005-03-0325 - 2
Sampled:	03/08/2005 05:45	Extracted:	3/11/2005 09:59
Matrix:	Air	QC Batch#:	2005/03/11-01.05

Analysis Flag: L2,H1 ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	2000	140	ppmv	10.00	03/11/2005 09:59	Q1
Benzene	ND	3.1	ppmv	10.00	03/11/2005 09:59	
Toluene	ND	2.6	ppmv	10.00	03/11/2005 09:59	
Ethyl benzene	ND	2.3	ppmv	10.00	03/11/2005 09:59	
Xylene(s)	2.3	2.3	ppmv	10.00	03/11/2005 09:59	
MTBE	31	14	ppmv	10.00	03/11/2005 09:59	
<i>Surrogate(s)</i>						
Trifluorotoluene	123.4	58-124	%	10.00	03/11/2005 09:59	
4-Bromofluorobenzene-FID	90.7	50-150	%	10.00	03/11/2005 09:59	

## **Gas/BTEX Compounds by 8015M/8021**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #1124

Received: 03/10/2005 09:15

**Site:** 1300 Farmers Lane, Santa Rosa, California

Prep(s): 5030

Test(s): 8015M  
8021B

Sample ID: INF-3

Lab ID: 2005-03-0325 - 3

Sampled: 03/09/2005 08:05

Extracted: 3/11/2005 10:31

**Matrix:** Air

QC Batch#: 2005/03/11-01 05

Analysis Flag: L2 ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	840	70	ppmv	5.00	03/11/2005 10:31	Q1
Benzene	ND	1.6	ppmv	5.00	03/11/2005 10:31	
Toluene	ND	1.3	ppmv	5.00	03/11/2005 10:31	
Ethyl benzene	ND	1.2	ppmv	5.00	03/11/2005 10:31	
Xylene(s)	1.5	1.2	ppmv	5.00	03/11/2005 10:31	
MTBE	13	7.0	ppmv	5.00	03/11/2005 10:31	
<i>Surrogate(s)</i>						
4-Bromofluorobenzene	111.3	50-150	%	5.00	03/11/2005 10:31	
4-Bromofluorobenzene-FID	93.5	50-150	%	5.00	03/11/2005 10:31	

## **Gas/BTEX Compounds by 8015M/8021**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
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Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001

Cognex Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

Prep(s): 5030

Test(s): 8015M  
8031B

Sample ID: INF-4

Lab ID: 2005-03-0325 - 4

Sampled: 03/09/2005 09:00

Extracted: 3/11/2005 11:04

Matrix: Air

QC Batch#: 2005/03/11-01\_05

Analysis Flag: L2 ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	1500	70	ppmv	5.00	03/11/2005 11:04	Q1
Benzene	ND	1.6	ppmv	5.00	03/11/2005 11:04	
Toluene	ND	1.3	ppmv	5.00	03/11/2005 11:04	
Ethyl benzene	ND	1.2	ppmv	5.00	03/11/2005 11:04	
Xylene(s)	2.9	1.2	ppmv	5.00	03/11/2005 11:04	
MTBE	21	7.0	ppmv	5.00	03/11/2005 11:04	
<i>Surrogate(s)</i>						
Trifluorotoluene	65.5	58-124	%	5.00	03/11/2005 11:04	
4-Bromofluorobenzene-FID	102.9	50-150	%	5.00	03/11/2005 11:04	

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
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Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

## Batch QC Report

Prep(s): 5030  
5030

Test(s): 8015M  
8021B

Method Blank

Water

QC Batch # 2005/03/11-01.05

MB: 2005/03/11-01.05-001

Date Extracted: 03/11/2005 07:16

Compound	Conc.	RL	Unit	Analyzed	Flag
GRO (C6-C12)	ND	50	ug/L	03/11/2005 07:16	
Benzene	ND	0.5	ug/L	03/11/2005 07:16	
Toluene	ND	0.5	ug/L	03/11/2005 07:16	
Ethyl benzene	ND	0.5	ug/L	03/11/2005 07:16	
Xylene(s)	ND	0.5	ug/L	03/11/2005 07:16	
MTBE	ND	5.0	ug/L	03/11/2005 07:16	
<b>Surrogates(s)</b>					
Trifluorotoluene	110.2	58-124	%	03/11/2005 07:16	
4-BromoFluorobenzene-FID	90.8	50-150	%	03/11/2005 07:16	

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

## Batch QC Report

Prep(s): 5030

Test(s): 8021B

## Laboratory Control Spike

## Water

QC Batch # 2005/03/11-01.05

LCS 2005/03/11-01.05-002  
LCSD

Extracted: 03/11/2005

Analyzed: 03/11/2005 07:48

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		Rec.	RPD	LCS	LCSD
Benzene	55.7		50.0	111.4			77-123	20		
Toluene	55.7		50.0	111.4			78-122	20		
Ethyl benzene	56.6		50.0	113.2			70-130	20		
Xylene(s)	167		150	111.3			75-125	20		
<b>Surrogates(s)</b>										
Trifluorotoluene	536		500	107.2			58-124			

## Gas/BTEX Compounds by 8015M/8021

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

## Batch QC Report

Prep(s): 5030

Test(s): 8015M

## Laboratory Control Spike

## Water

QC Batch # 2005/03/11-01.05

LCS 2005/03/11-01.05-003  
LCSD

Extracted: 03/11/2005

Analyzed: 03/11/2005 08:21

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		Rec.	RPD	LCS	LCSD
GRO (C6-C12)	257		250	102.8			75-125	20		
Surrogates(s) 4-Bromofluorobenzene-FID	444		500	88.8			50-150			

**Gas/BTEX Compounds by 8015M/8021**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

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**Batch QC Report**

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Prep(s): 5030

Test(s): 8021B

**Matrix Spike ( MS / MSD )****Water****QC Batch # 2005/03/11-01.05****MS/MSD**

Lab ID: 2005-03-0087 - 001

MS: 2005/03/11-01.05-015

Extracted: 03/11/2005

Analyzed: 03/11/2005 16:24

MSD: 2005/03/11-01.05-016

Extracted: 03/11/2005

Dilution: 1.00

Analyzed: 03/11/2005 16:59

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample		ug/L	MS	MSD	RPD	Rec.	RPD	MS
Benzene	57.4	56.1	ND	50.0	114.8	112.2	2.3	65-135	20		
Toluene	57.9	57.2	ND	50.0	115.8	114.4	1.2	65-135	20		
Ethyl benzene	58.1	57.4	ND	50.0	116.2	114.8	1.2	65-135	20		
Xylene(s)	171	171	ND	150	114.0	114.0	0.0	65-135	20		
<i>Surrogate(s)</i>											
Trifluorotoluene	572	555		500	114.4	111.0		58-124			

**Gas/BTEX Compounds by 8015M/8021**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001

Received: 03/10/2005 09:15

Conoco Philips Site #11249

Site: 1300 Farmers Lane, Santa Rosa, California

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**Batch QC Report**

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Prep(s): 5030

Test(s): 8015M

**Matrix Spike ( MS / MSD )****Water****QC Batch # 2005/03/11-01.05****MS/MSD**

Lab ID: 2005-03-0087 - 002

MS: 2005/03/11-01.05-018

Extracted: 03/11/2005

Analyzed: 03/11/2005 18:05

MSD: 2005/03/11-01.05-019

Extracted: 03/11/2005

Analyzed: 03/11/2005 18:38

Dilution: 1.00

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample		ug/L	MS	MSD	RPD	Rec.	RPD	MS
GRO (C6-C12)	240	226	56.0	250	73.6	68.0	7.9	65-135	20		
<i>Surrogate(s)</i> Trifluorotoluene-FID	492			500	98.4			58-124			

**Gas/BTEX Compounds by 8015M/8021**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100

Rancho Cordova, CA 95670

Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001

Conoco Philips Site #11249

Received: 03/10/2005 09:15

Site: 1300 Farmers Lane, Santa Rosa, California

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**Legend and Notes**

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**Analysis Flag**

H1

Extracted out of holding time.

L2

Reporting limits were raised due to high level of analyte present in the sample.

**Result Flag**

Q1

Quantit. of unknown hydrocarbon(s) in sample based on gasoline.

## STL-San Francisco

## ConocoPhillips Chain Of Custody Record /C-335C

1220 Quarry Lane

Pleasanton, CA 94566

(925) 484-1919 (925) 484-1096 fax

SECOR International Inc

Address:

3017 Niguel Rd Suite 100, Rancho Cordova, CA 95670

PROJECT CONTACT (Name &amp; Ext or P/N Report No):

Amy Draffan

TELEPHONE: (916) 851-0400 x 235 FAX: (916) 851-0430

EMAIL: amy.draffan@secor.com

SAMPLE NUMBER: 77CP-601249.03.0001

VALID WORK ID: 11240

REASON FOR SAMPLING: 14 days

TIME REQUIRED (CALENDAR DAYS):

14 days  7 days  2 hours  48 hours  24 hours  less than 24 hours SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF ECO IS NEEDED 

REQUESTED ANALYSES

## ConocoPhillips Site Manager:

CONOCOPHILLIPS

Attn: Don Hutchinson  
3611 South Harbor, Suite 200  
Santa Ana, CA 92704

2389SECU03 CONOCOPHILLIPS COAST OBJECT WNO:2389

DATE 3-03-2005

PAGE 1 of 1

SITE ADDRESS (is this sample site):

1300 Farmers Lane, Santa Rosa, California

EOF DELIVERABLE TO (IP w/ Domains): Amy Draffan

(916) 851-0400 ext 235

EMAIL: liz.snow@secor.com

Liz Snow

LAU USE ONLY

## FIELD NOTES:

Combination of Preservation  
or P/L Readings  
or Laboratory Notes

TEMPERATURE ON RECEIPT: °C 19.0

\*Field Point name only required if different from Sample ID

Sample Identification/Field Point Name*	SAMPLING DATE	MATRIX TIME	NO. OF CONT
INF-1	3/9	11:00	1
INF-2	3/9	5:45	1
INF-3	3/9	9:05	1
INF-4	3/9	4:30	1

Reported by (Signature)

→ TO FedEx

Received by (Signature)

Receiving Facility (Signature)

Submitted by (Signature)

Receiving Facility (Signature)

Submitted by (Signature)

Receiving Facility (Signature)



Submission: 2005-03-0377

**Gas/BTEX/MTBE by 8260B**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001

Received: 03/11/2005 09:20

Conoco Philips Site #11249

Site: 1300 Farmers Lane, Santa Rosa, California

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
KO PRE	03/08/2005 11:00	Water	3
KO POST	03/10/2005 13:50	Water	4

## Gas/BTEX/MTBE by 8260B

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/11/2005 09:20

Site: 1300 Farmers Lane, Santa Rosa, California

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Prep(s): 5030B                                  Test(s): 8260B  
Sample ID: KO PRE                                  Lab ID: 2005-03-0377 - 3  
Sampled: 03/08/2005 11:00                          Extracted: 3/19/2005 14:34  
Matrix: Water    QC Batch#: 2005/03/19-1D.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	1000	50	ug/L	1.00	03/19/2005 14:34	
Benzene	1.8	0.50	ug/L	1.00	03/19/2005 14:34	
Toluene	14	0.50	ug/L	1.00	03/19/2005 14:34	
Ethylbenzene	5.5	0.50	ug/L	1.00	03/19/2005 14:34	
Total xylenes	15	1.0	ug/L	1.00	03/19/2005 14:34	
Methyl tert-butyl ether (MTBE)	150	0.50	ug/L	1.00	03/19/2005 14:34	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	99.8	73-130	%	1.00	03/19/2005 14:34	
Toluene-d8	100.6	81-114	%	1.00	03/19/2005 14:34	

## Gas/BTEX/MTBE by 8260B

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/11/2005 09:20

Site: 1300 Farmers Lane, Santa Rosa, California

---

Prep(s): 5030B Test(s): 8260B  
Sample ID: KO POST Lab ID: 2005-03-0377 - 4  
Sampled: 03/10/2005 13:50 Extracted: 3/23/2005 09:56  
Matrix: Water QC Batch#: 2005/03/23-1B.65

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	510	50	ug/L	1.00	03/23/2005 09:56	
Benzene	0.51	0.50	ug/L	1.00	03/23/2005 09:56	
Toluene	0.95	0.50	ug/L	1.00	03/23/2005 09:56	
Ethylbenzene	0.53	0.50	ug/L	1.00	03/23/2005 09:56	
Total xylenes	11	1.0	ug/L	1.00	03/23/2005 09:56	
Methyl tert-butyl ether (MTBE)	77	0.50	ug/L	1.00	03/23/2005 09:56	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	115.8	73-130	%	1.00	03/23/2005 09:56	
Toluene-d8	100.4	81-114	%	1.00	03/23/2005 09:56	

**Gas/BTEX/MTBE by 8260B**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/11/2005 09:20

Site: 1300 Farmers Lane, Santa Rosa, California

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**Batch QC Report**

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Prep(s): 5030B

Test(s): 8260B

**Method Blank****Water****QC Batch # 2005/03/19-1D.64**

MB: 2005/03/19-1D.64-046

Date Extracted: 03/19/2005 07:46

Compound	Conc.	RL	Unit	Analyzed	Flag
GRO (C6-C12)	ND	50	ug/L	03/19/2005 07:46	
Benzene	ND	0.5	ug/L	03/19/2005 07:46	
Toluene	ND	0.5	ug/L	03/19/2005 07:46	
Ethylbenzene	ND	0.5	ug/L	03/19/2005 07:46	
Total xylenes	ND	1.0	ug/L	03/19/2005 07:46	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	03/19/2005 07:46	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	95.4	73-130	%	03/19/2005 07:46	
Toluene-d8	87.4	81-114	%	03/19/2005 07:46	

## Gas/BTEX/MTBE by 8260B

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670

Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001

Received: 03/11/2005 09:20

Conoco Philips Site #11249

Site: 1300 Farmers Lane, Santa Rosa, California

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Batch QC Report

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Prep(s): 5030B

Test(s): 8260B

Method Blank

Water

QC Batch # 2005/03/23-1B.65

MB: 2005/03/23-1B.65-023

Date Extracted: 03/23/2005 09:23

Compound	Conc.	RL	Unit	Analyzed	Flag
GRO (C6-C12)	ND	50	ug/L	03/23/2005 09:23	
Benzene	ND	0.5	ug/L	03/23/2005 09:23	
Toluene	ND	0.5	ug/L	03/23/2005 09:23	
Ethylbenzene	ND	0.5	ug/L	03/23/2005 09:23	
Total xylenes	ND	1.0	ug/L	03/23/2005 09:23	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	03/23/2005 09:23	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	106.4	73-130	%	03/23/2005 09:23	
Toluene-d8	98.0	81-114	%	03/23/2005 09:23	

**Gas/BTEX/MTBE by 8260B**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/11/2005 09:20

Site: 1300 Farmers Lane, Santa Rosa, California

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Laboratory Control Spike****Water****QC Batch # 2005/03/19-1D.64**

LCS 2005/03/19-1D.64-047  
LCSD

Extracted: 03/19/2005

Analyzed: 03/19/2005 07:24

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	23.6		25	94.4		65-165	20			
Benzene	24.5		25	98.0		69-129	20			
Toluene	25.9		25	103.6		70-130	20			
<i>Surrogates(s)</i>										
1,2-Dichloroethane-d4	457		500	91.4		73-130				
Toluene-d8	480		500	96.0		81-114				

**Gas/BTEX/MTBE by 8260B**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100

Rancho Cordova, CA 95670

Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001

Received: 03/11/2005 09:20

Conoco Philips Site #11249

Site: 1300 Farmers Lane, Santa Rosa, California

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**Batch QC Report**

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Prep(s): 5030B

Test(s): 8260B

**Laboratory Control Spike****Water****QC Batch # 2005/03/23-1B.65**LCS 2005/03/23-1B.65-059  
LCSD

Extracted: 03/23/2005

Analyzed: 03/23/2005 08:59

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	24.8		25	99.2			65-165	20		
Benzene	25.2		25	100.8			69-129	20		
Toluene	28.5		25	114.0			70-130	20		
<i>Surrogates(s)</i>										
1,2-Dichloroethane-d4	418		500	83.6			73-130			
Toluene-d8	490		500	98.0			81-114			

## Gas/BTEX/MTBE by 8260B

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/11/2005 09:20

Site: 1300 Farmers Lane, Santa Rosa, California

## Batch QC Report

Prep(s): 5030B

Test(s): 8260B

## Matrix Spike ( MS / MSD )

## Water

QC Batch # 2005/03/19-1D.64

## MS/MSD

Lab ID: 2005-03-0385 - 001

MS: 2005/03/19-1D.64-050

Extracted: 03/19/2005

Analyzed: 03/19/2005 10:50

MSD: 2005/03/19-1D.64-013

Extracted: 03/19/2005

Analyzed: 03/19/2005 11:13

Dilution: 1.00

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level ug/L	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Methyl tert-butyl ether	246	262	228	25	72.0	136.0	61.5	65-165	20		R1
Benzene	235	250	213	25	88.0	148.0	50.8	69-129	20		M3,R1
Toluene	30.6	31.5	5.09	25	102.0	105.6	3.5	70-130	20		
<i>Surrogate(s)</i>											
1,2-Dichloroethane-d4	484	477		500	96.8	95.4		73-130			
Toluene-d8	493	508		500	98.6	101.6		81-114			

## Gas/BTEX/MTBE by 8260B

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.601249.03.0001  
Conoco Philips Site #11249

Received: 03/11/2005 09:20

Site: 1300 Farmers Lane, Santa Rosa, California

## Batch QC Report

Prep(s): 5030B

Test(s): 8260B

## Matrix Spike ( MS / MSD )

## Water

QC Batch # 2005/03/23-1B.65

MS/MSD

Lab ID: 2005-03-0404 - 001

MS: 2005/03/23-1B.65-039

Extracted: 03/23/2005

Analyzed: 03/23/2005 11:39

MSD: 2005/03/23-1B.65-006

Extracted: 03/23/2005

Dilution: 1.00

Analyzed: 03/23/2005 12:06

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample		ug/L	MS	MSD	RPD	Rec.	RPD	MS
Methyl tert-butyl ether	23.6	23.4	ND	25	94.4	93.6	0.9	65-165	20		
Benzene	26.7	26.3	1.7	25	100.0	105.2	5.1	69-129	20		
Toluene	26.3	26.6	ND	25	105.2	106.4	1.1	70-130	20		
<i>Surrogate(s)</i>											
1,2-Dichloroethane-d4	427	431		500	85.4	86.2		73-130			
Toluene-d8	474	472		500	94.8	94.4		81-114			

## STL-San Francisco

## ConocoPhillips Chain Of Custody Record 103409

1220 Quarry Lane Pleasanton, CA 94566 (925) 454-1919 (925) 424-1096 fax		ConocoPhillips Site Manager: INVOICE REMITTANCE ADDRESS: Attn: Dan Hutchinson 1300 Fairmount Lnno, Santa Rosa, California 1000 AMCA #270		ConocoPhillips Work Order Number 2389SEC003 ConocoPhillips Cost Object WNO 2389 GLOBAL ID NO.: 11249		DATE: 3/10/15 PAGE: 1 of 1	
SECOR International Inc ADDRESS: 3017 Kilgore Rd Suite 100, Rancho Cordova, CA 95820 PROJECT CONTACT (Name or Project): Amy Draffan TELEPHONE: (816) 861-0430 FAX: (816) 861-0430 SAMPLER NAME (Initials): <i>S. B. D.</i>		CONOCOPHILLIPS Attn: Dan Hutchinson 1300 Fairmount Lnno, Santa Rosa, California 1000 AMCA #270		CONOCOPHILLIPS SITE MANAGER: Liz Swall			
<input type="checkbox"/> 14 Days <input type="checkbox"/> 7 Days <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 24 hours <input type="checkbox"/> less than 24 hours		<input type="checkbox"/> TURNAROUND TIME (CALENDAR DAYS):		PROJECT NUMBER: 77CP-B01249-03-0001			
SPECIAL INSTRUCTIONS OR NOTES: <input type="checkbox"/> CHECK BOX IF FDS IS NEEDED				FIELD NOTES: Container/Precursors or PDI Readings or Laboratory Notes			
* Field Point name only required if different from Sample ID		LAB USE ONLY		SAMPLING POINT		TEMPERATURE MEASURED (C)	
	Name*	DATE	TIME	MATRIX	NO. OF CONT		
	<i>TNF-5</i>	<i>3/10</i>	<i>5:30PM</i>	<i>air</i>	<i>1</i>		
	<i>TNF-6</i>	<i>3/10</i>	<i>1:55PM</i>	<i>air</i>	<i>1</i>		
	<i>CO PHC</i>	<i>3/9</i>	<i>1:05</i>	<i>air</i>	<i>1</i>	<i>X</i>	
	<i>CO Post</i>	<i>3/10</i>	<i>1:55PM</i>	<i>air</i>	<i>1</i>	<i>X</i>	
Requested By (Signature) <i>J. B. D.</i>		Receivatory (Signature) <i>J. B. D.</i>		Date: 3-11-05		Time: 0920	
Requested By (Signature) <i>J. B. D.</i>		Receivatory (Signature) <i>J. B. D.</i>		Date: <i>10</i>		Time: <i>10:00</i>	

**SECOR-Sacramento**

March 16, 2005

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670

Attn.: Amy Draffan

Project#: 77CP.60004.01.4113

Project: Conoco Philips Site #11249

Site: 1300 Farmers Lane, Santa Rosa, CA

Attached is our report for your samples received on 03/03/2005 16:30

This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 04/17/2005 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.

You can also contact me via email. My email address is: [asalimpour@stl-inc.com](mailto:asalimpour@stl-inc.com)

Sincerely,



Afsaneh Salimpour  
Project Manager

**pH**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
EX-1	03/02/2005 11:15	Water	1

**pH**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

---

Prep(s): 9040B/150.1                          Test(s): 9040B/150.1  
Sample ID: EX-1                                  Lab ID: 2005-03-0126 - 1  
Sampled: 03/02/2005 11:15                          Extracted: 3/3/2005 17:45  
Matrix: Water    QC Batch#: 2005/03/03-01.22

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
pH	6.8	0.1	SU	1.00	03/03/2005 17:45	

**pH**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

---

**Batch QC Report**

---

Prep(s): 9040B/150.1

Test(s): 9040B/150.1

Method Blank

Water

QC Batch # 2005/03/03-01.22

MB: 2005/03/03-01.22-001

Date Extracted: 03/03/2005

Compound	Conc.	RL	Unit	Analyzed	Flag
pH	7.10	0.1	SU	03/03/2005	

**Gas/BTEX/MTBE by 8260B**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
EX-1	03/02/2005 11:15	Water	1

## Gas/BTEX/MTBE by 8260B

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100

Rancho Cordova, CA 95670

Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113

Received: 03/03/2005 16:30

Conoco Philips Site #11249

Site: 1300 Farmers Lane, Santa Rosa, CA

---

Prep(s):	5030B	Test(s):	8260B
Sample ID:	EX-1	Lab ID:	2005-03-0126 - 1
Sampled:	03/02/2005 11:15	Extracted:	3/8/2005 10:38
Matrix:	Water	QC Batch#:	2005/03/08-1B.68

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	660	50	ug/L	1.00	03/08/2005 10:38	
Benzene	2.1	0.50	ug/L	1.00	03/08/2005 10:38	
Toluene	ND	0.50	ug/L	1.00	03/08/2005 10:38	
Ethylbenzene	0.86	0.50	ug/L	1.00	03/08/2005 10:38	
Total xylenes	ND	1.0	ug/L	1.00	03/08/2005 10:38	
Methyl tert-butyl ether (MTBE)	42	0.50	ug/L	1.00	03/08/2005 10:38	
<i>Surrogate(s)</i>						
1,2-Dichloroethane-d4	98.7	73-130	%	1.00	03/08/2005 10:38	
Toluene-d8	97.4	81-114	%	1.00	03/08/2005 10:38	

## Gas/BTEX/MTBE by 8260B

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

## Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Method Blank

Water

QC Batch # 2005/03/08-1B.68

MB: 2005/03/08-1B.68-006

Date Extracted: 03/08/2005 10:06

Compound	Conc.	RL	Unit	Analyzed	Flag
GRO (C6-C12)	ND	50	ug/L	03/08/2005 10:06	
Benzene	ND	0.5	ug/L	03/08/2005 10:06	
Toluene	ND	0.5	ug/L	03/08/2005 10:06	
Ethylbenzene	ND	0.5	ug/L	03/08/2005 10:06	
Total xylenes	ND	1.0	ug/L	03/08/2005 10:06	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	03/08/2005 10:06	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	100.2	73-130	%	03/08/2005 10:06	
Toluene-d8	101.0	81-114	%	03/08/2005 10:06	

## Gas/BTEX/MTBE by 8260B

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

## Batch QC Report

Prep(s): 5030B

Test(s): 8260B

## Laboratory Control Spike

## Water

## QC Batch # 2005/03/08-1B.68

LCS 2005/03/08-1B.68-049  
LCSD

Extracted: 03/08/2005

Analyzed: 03/08/2005 09:49

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	26.2		25	104.8			65-165	20		
Benzene	26.7		25	106.8			69-129	20		
Toluene	26.9		25	107.6			70-130	20		
<i>Surrogates(s)</i>										
1,2-Dichloroethane-d4	426		500	85.2			73-130			
Toluene-d8	522		500	104.4			81-114			

## Gas/BTEX/MTBE by 8260B

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

## Batch QC Report

Prep(s): 5030B

Test(s): 8260B

## Matrix Spike ( MS / MSD )

## Water

## QC Batch # 2005/03/08-1B.68

MS/MSD

Lab ID: 2005-02-0840 - 001

MS: 2005/03/08-1B.68-013

Extracted: 03/08/2005

Analyzed: 03/08/2005 11:13

MSD: 2005/03/08-1B.68-030

Extracted: 03/08/2005

Analyzed: 03/08/2005 11:30

Dilution: 1.00

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample		ug/L	MS	MSD	RPD	Rec.	RPD	MS
Methyl terl-butyl ether	21.5	23.4	ND	25	86.0	93.6	8.5	65-165	20		
Benzene	23.1	25.2	ND	25	92.4	100.8	8.7	69-129	20		
Toluene	23.7	26.3	ND	25	94.8	105.2	10.4	70-130	20		
<i>Surrogate(s)</i>											
1,2-Dichloroelhane-d4	416	411		500	83.2	82.2		73-130			
Toluene-d8	515	533		500	103.0	106.6		81-114			

**Flashpoint**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
EX-1	03/02/2005 11:15	Water	1

**Flashpoint**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

---

Prep(s): 1010                          Test(s): EPA 1010  
Sample ID: EX-1                          Lab ID: 2005-03-0126 - 1  
Sampled: 03/02/2005 11:15                  Extracted: 3/8/2005 17:00  
Matrix: Water                              QC Batch#: 2005/03/08-01.34

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Flashpoint	>160	80	°F	1.00	03/08/2005 18:00	

**Flashpoint**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

---

**Batch QC Report**

---

Prep(s): 1010

Test(s): EPA 1010

**Laboratory Control Spike****Water****QC Batch # 2005/03/08-01.34**LCS 2005/03/08-01.34-001  
LCSD

Extracted: 03/08/2005

Analyzed: 03/08/2005 18:00

Compound	Conc.	°F	Exp.Conc.	Recovery %		RPD	Ctrl.Limits %	Flags		
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Flashpoint	81.0		83.0	97.6			97-103			

**Flashpoint**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

---

**Batch QC Report**

---

Prep(s): 1010

Test(s): EPA 1010

**Duplicate Sample Results (DUP)****Water****QC Batch # 2005/03/08-01.34**

EX-1 &gt;&gt; DUP

Lab ID: 2005-03-0126-001

Dup: 2005/03/08-01.34-002

Extracted: 03/08/2005 17:00

Analyzed:

03/08/2005 18:00

Dilution:

1.00

Compound	DUP Result	Sample Result	Unit	RPD	Flag
Flashpoint	>160	>160	°F	0	

**CAM 17 Metals**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
EX-1	03/02/2005 11:15	Water	1

## CAM 17 Metals

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

---

Prep(s):	3010A 7470A	Test(s):	6010B 7470A
Sample ID:	EX-1	Lab ID:	2005-03-0126 - 1
Sampled:	03/02/2005 11:15	Extracted:	3/7/2005 05:09 3/8/2005 07:13
Matrix:	Water	QC Batch#:	2005/03/07-01.15 2005/03/08-01.16

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.0050	mg/L	1.00	03/09/2005 12:23	
Arsenic	0.0090	0.0050	mg/L	1.00	03/09/2005 12:23	
Barium	0.17	0.0050	mg/L	1.00	03/09/2005 12:23	
Beryllium	ND	0.0050	mg/L	1.00	03/09/2005 12:23	
Cadmium	ND	0.0020	mg/L	1.00	03/09/2005 12:23	
Chromium	ND	0.0050	mg/L	1.00	03/09/2005 12:23	
Cobalt	ND	0.0050	mg/L	1.00	03/09/2005 12:23	
Copper	ND	0.0050	mg/L	1.00	03/09/2005 12:23	
Lead	ND	0.0050	mg/L	1.00	03/09/2005 12:23	
Molybdenum	ND	0.0050	mg/L	1.00	03/09/2005 12:23	
Nickel	ND	0.0050	mg/L	1.00	03/09/2005 12:23	
Selenium	ND	0.0050	mg/L	1.00	03/09/2005 12:23	
Silver	ND	0.0050	mg/L	1.00	03/09/2005 12:23	
Thallium	ND	0.0050	mg/L	1.00	03/09/2005 12:23	
Vanadium	ND	0.0050	mg/L	1.00	03/09/2005 12:23	
Zinc	ND	0.010	mg/L	1.00	03/09/2005 12:23	
Mercury	ND	0.00020	mg/L	1.00	03/08/2005 11:08	

## CAM 17 Metals

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

## Batch QC Report

Prep(s): 3010A

Test(s): 6010B

Method Blank

Water

QC Batch # 2005/03/07-01.15

MB: 2005/03/07-01.15-086

Date Extracted: 03/07/2005 05:09

Compound	Conc.	RL	Unit	Analyzed	Flag
Antimony	ND	0.0050	mg/L	03/07/2005 13:44	
Arsenic	ND	0.0050	mg/L	03/07/2005 13:44	
Barium	ND	0.0050	mg/L	03/07/2005 13:44	
Beryllium	ND	0.0050	mg/L	03/07/2005 13:44	
Cadmium	ND	0.0020	mg/L	03/07/2005 13:44	
Chromium	ND	0.0050	mg/L	03/07/2005 13:44	
Cobalt	ND	0.0050	mg/L	03/07/2005 13:44	
Copper	ND	0.0050	mg/L	03/07/2005 13:44	
Lead	ND	0.0050	mg/L	03/07/2005 13:44	
Molybdenum	ND	0.0050	mg/L	03/07/2005 13:44	
Nickel	ND	0.0050	mg/L	03/07/2005 13:44	
Selenium	ND	0.0050	mg/L	03/07/2005 13:44	
Silver	ND	0.0050	mg/L	03/07/2005 13:44	
Thallium	ND	0.0050	mg/L	03/07/2005 13:44	
Vanadium	ND	0.0050	mg/L	03/07/2005 13:44	
Zinc	ND	0.010	mg/L	03/07/2005 13:44	

**CAM 17 Metals**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

---

**Batch QC Report**

---

Prep(s): 7470A

Test(s): 7470A

Method Blank

Water

QC Batch # 2005/03/08-01.16

MB: 2005/03/08-01.16-035

Date Extracted: 03/08/2005 07:13

Compound	Conc.	RL	Unit	Analyzed	Flag
Mercury	ND	0.0002	mg/L	03/08/2005 11:05	

**CAM 17 Metals**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

**Batch QC Report**

Prep(s): 3010A

Test(s): 6010B

**Laboratory Control Spike****Water****QC Batch # 2005/03/07-01.15**

LCS 2005/03/07-01.15-087  
LCSD 2005/03/07-01.15-088

Extracted: 03/07/2005  
Extracted: 03/07/2005

Analyzed: 03/07/2005 13:47  
Analyzed: 03/07/2005 13:50

Compound	Conc.	mg/L	Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Antimony	0.527	0.531	0.500	105.4	106.2	0.8	80-120	20		
Arsenic	0.474	0.476	0.500	94.8	95.2	0.4	80-120	20		
Barium	0.528	0.535	0.500	105.6	107.0	1.3	80-120	20		
Beryllium	0.499	0.504	0.500	99.8	100.8	1.0	80-120	20		
Cadmium	0.492	0.498	0.50	98.4	99.6	1.2	80-120	20		
Chromium	0.504	0.512	0.500	100.8	102.4	1.6	80-120	20		
Cobalt	0.498	0.504	0.500	99.6	100.8	1.2	80-120	20		
Copper	0.513	0.520	0.500	102.6	104.0	1.4	80-120	20		
Lead	0.493	0.500	0.500	98.6	100.0	1.4	80-120	20		
Molybdenum	0.488	0.498	0.500	97.6	99.6	2.0	80-120	20		
Nickel	0.500	0.506	0.500	100.0	101.2	1.2	80-120	20		
Selenium	0.507	0.514	0.500	101.4	102.8	1.4	80-120	20		
Silver	0.506	0.512	0.500	101.2	102.4	1.2	80-120	20		
Thallium	0.492	0.498	0.500	98.4	99.6	1.2	80-120	20		
Vanadium	0.508	0.515	0.500	101.6	103.0	1.4	80-120	20		
Zinc	0.497	0.499	0.500	99.4	99.8	0.4	80-120	20		

**CAM 17 Metals**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

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**Batch QC Report**

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Prep(s): 7470A

Test(s): 7470A

**Laboratory Control Spike****Water****QC Batch # 2005/03/08-01.16**

LCS 2005/03/08-01.16-036

Extracted: 03/08/2005

Analyzed: 03/08/2005 11:06

LCSD 2005/03/08-01.16-037

Extracted: 03/08/2005

Analyzed: 03/08/2005 11:07

Compound	Conc. mg/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %	Flags			
	LCS	LCSD		LCS	LCSD			Rec.	RPD	LCS	LCSD
Mercury	0.0226	0.0226	0.0200	113.0	113.0	0.0	85-115	20			

**Volatile Organic Compounds by 8260B**

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
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Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
EX-1	03/02/2005 11:15	Water	1

## Volatile Organic Compounds by 8260B

SECOR-Sacramento

Attn.: Amy Draffan

3017 Kilgore Road, Suite 100  
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Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

Prep(s):	5030B	Test(s):	8260B
Sample ID:	EX-1	Lab ID:	2005-03-0126 - 1
Sampled:	03/02/2005 11:15	Extracted:	3/14/2005 14:10
Matrix:	Water	QC Batch#:	2005/03/14-1A.06

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
MTBE	45	5.0	ug/L	1.00	03/14/2005 14:10	
Acetone	ND	50	ug/L	1.00	03/14/2005 14:10	
Benzene	2.2	0.50	ug/L	1.00	03/14/2005 14:10	
Bromodichloromethane	ND	0.50	ug/L	1.00	03/14/2005 14:10	
Bromobenzene	ND	1.0	ug/L	1.00	03/14/2005 14:10	
Bromochloromethane	ND	1.0	ug/L	1.00	03/14/2005 14:10	
Bromoform	ND	0.50	ug/L	1.00	03/14/2005 14:10	
Bromomethane	ND	1.0	ug/L	1.00	03/14/2005 14:10	
2-Butanone(MEK)	ND	50	ug/L	1.00	03/14/2005 14:10	
n-Butylbenzene	ND	1.0	ug/L	1.00	03/14/2005 14:10	
sec-Butylbenzene	4.7	1.0	ug/L	1.00	03/14/2005 14:10	
tert-Butylbenzene	ND	1.0	ug/L	1.00	03/14/2005 14:10	
Carbon disulfide	ND	5.0	ug/L	1.00	03/14/2005 14:10	
Carbon tetrachloride	ND	0.50	ug/L	1.00	03/14/2005 14:10	
Chlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
Chloroethane	ND	1.0	ug/L	1.00	03/14/2005 14:10	
Chloroform	ND	1.0	ug/L	1.00	03/14/2005 14:10	
Chloromethane	ND	1.0	ug/L	1.00	03/14/2005 14:10	
2-Chlorotoluene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
4-Chlorotoluene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
Dibromochloromethane	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,2-Dichlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,3-Dichlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,4-Dichlorobenzene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,3-Dichloropropane	ND	1.0	ug/L	1.00	03/14/2005 14:10	
2,2-Dichloropropane	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,1-Dichloropropene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1.00	03/14/2005 14:10	
1,2-Dibromoethane	ND	0.50	ug/L	1.00	03/14/2005 14:10	

## Volatile Organic Compounds by 8260B

SECOR-Sacramento

Attn.: Amy Draffan

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Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

Prep(s):	5030B	Test(s):	8260B
Sample ID:	EX-1	Lab ID:	2005-03-0126 - 1
Sampled:	03/02/2005 11:15	Extracted:	3/14/2005 14:10
Matrix:	Water	QC Batch#:	2005/03/14-1A.06

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dibromomethane	ND	0.50	ug/L	1.00	03/14/2005 14:10	
Dichlorodifluoromethane	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,1-Dichloroethane	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,2-Dichloroethane	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,1-Dichloroethene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
cis-1,2-Dichloroethene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
trans-1,2-Dichloroethene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,2-Dichloropropane	ND	0.50	ug/L	1.00	03/14/2005 14:10	
cis-1,3-Dichloropropene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
trans-1,3-Dichloropropene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
Ethylbenzene	0.82	0.50	ug/L	1.00	03/14/2005 14:10	
Hexachlorobutadiene	ND	1.0	ug/L	1.00	03/14/2005 14:10	
2-Hexanone	ND	50	ug/L	1.00	03/14/2005 14:10	
Isopropylbenzene	5.2	0.50	ug/L	1.00	03/14/2005 14:10	
p-Isopropyltoluene	ND	1.0	ug/L	1.00	03/14/2005 14:10	
Methylene chloride	ND	5.0	ug/L	1.00	03/14/2005 14:10	
4-Methyl-2-pentanone (MIBK)	ND	50	ug/L	1.00	03/14/2005 14:10	
Naphthalene	ND	1.0	ug/L	1.00	03/14/2005 14:10	
n-Propylbenzene	9.8	1.0	ug/L	1.00	03/14/2005 14:10	
Styrene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1.00	03/14/2005 14:10	
Tetrachloroethene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
Toluene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1.00	03/14/2005 14:10	
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1.00	03/14/2005 14:10	
1,1,1-Trichloroethane	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,1,2-Trichloroethane	ND	0.50	ug/L	1.00	03/14/2005 14:10	
Trichloroethene	ND	0.50	ug/L	1.00	03/14/2005 14:10	

## Volatile Organic Compounds by 8260B

SECOR-Sacramento

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Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

---

Prep(s):	5030B	Test(s):	8260B
Sample ID:	EX-1	Lab ID:	2005-03-0126 - 1
Sampled:	03/02/2005 11:15	Extracted:	3/14/2005 14:10
Matrix:	Water	QC Batch#:	2005/03/14-1A.06

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Trichlorofluoromethane	ND	1.0	ug/L	1.00	03/14/2005 14:10	
Trichlorotrifluoroethane	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,2,4-Trimethylbenzene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
1,3,5-Trimethylbenzene	ND	0.50	ug/L	1.00	03/14/2005 14:10	
Vinyl acetate	ND	25	ug/L	1.00	03/14/2005 14:10	
Vinyl chloride	ND	0.50	ug/L	1.00	03/14/2005 14:10	
Total xylenes	ND	1.0	ug/L	1.00	03/14/2005 14:10	
<i>Surrogate(s)</i>						
4-Bromofluorobenzene	96.9	79-118	%	1.00	03/14/2005 14:10	
1,2-Dichloroethane-d4	88.5	78-117	%	1.00	03/14/2005 14:10	
Toluene-d8	93.5	77-121	%	1.00	03/14/2005 14:10	

## Volatile Organic Compounds by 8260B

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Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

## Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Method Blank

Water

QC Batch # 2005/03/14-1A.06

MB: 2005/03/14-1A.06-003

Date Extracted: 03/14/2005 10:57

Compound	Conc.	RL	Unit	Analyzed	Flag
MTBE	ND	5.0	ug/L	03/14/2005 10:57	
Acetone	ND	50	ug/L	03/14/2005 10:57	
Benzene	ND	0.5	ug/L	03/14/2005 10:57	
Bromodichloromethane	ND	0.5	ug/L	03/14/2005 10:57	
Bromobenzene	ND	1.0	ug/L	03/14/2005 10:57	
Bromochloromethane	ND	1.0	ug/L	03/14/2005 10:57	
Bromoform	ND	0.5	ug/L	03/14/2005 10:57	
Bromomethane	ND	1.0	ug/L	03/14/2005 10:57	
2-Butanone(MEK)	ND	50	ug/L	03/14/2005 10:57	
n-Butylbenzene	ND	1.0	ug/L	03/14/2005 10:57	
sec-Butylbenzene	ND	1.0	ug/L	03/14/2005 10:57	
tert-Butylbenzene	ND	1.0	ug/L	03/14/2005 10:57	
Carbon disulfide	ND	5.0	ug/L	03/14/2005 10:57	
Carbon tetrachloride	ND	0.5	ug/L	03/14/2005 10:57	
Chlorobenzene	ND	0.5	ug/L	03/14/2005 10:57	
Chloroethane	ND	1.0	ug/L	03/14/2005 10:57	
Chloroform	ND	1.0	ug/L	03/14/2005 10:57	
Chloromethane	ND	1.0	ug/L	03/14/2005 10:57	
2-Chlorotoluene	ND	0.5	ug/L	03/14/2005 10:57	
4-Chlorotoluene	ND	0.5	ug/L	03/14/2005 10:57	
Dibromochloromethane	ND	0.5	ug/L	03/14/2005 10:57	
1,2-Dichlorobenzene	ND	0.5	ug/L	03/14/2005 10:57	
1,3-Dichlorobenzene	ND	0.5	ug/L	03/14/2005 10:57	
1,4-Dichlorobenzene	ND	0.5	ug/L	03/14/2005 10:57	
1,3-Dichloropropane	ND	1.0	ug/L	03/14/2005 10:57	
2,2-Dichloropropane	ND	0.5	ug/L	03/14/2005 10:57	
1,1-Dichloropropene	ND	0.5	ug/L	03/14/2005 10:57	
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	03/14/2005 10:57	
1,2-Dibromoethane	ND	0.5	ug/L	03/14/2005 10:57	

Severn Trent Laboratories, Inc.

03/16/2005 11:50

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## Volatile Organic Compounds by 8260B

SECOR-Sacramento

Attn.: Amy Draffan

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Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

## Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Method Blank

Water

QC Batch # 2005/03/14-1A.06

MB: 2005/03/14-1A.06-003

Date Extracted: 03/14/2005 10:57

Compound	Conc.	RL	Unit	Analyzed	Flag
Dibromomethane	ND	0.5	ug/L	03/14/2005 10:57	
Dichlorodifluoromethane	ND	0.5	ug/L	03/14/2005 10:57	
1,1-Dichloroethane	ND	0.5	ug/L	03/14/2005 10:57	
1,2-Dichloroethane	ND	0.5	ug/L	03/14/2005 10:57	
1,1-Dichloroethene	ND	0.5	ug/L	03/14/2005 10:57	
cis-1,2-Dichloroethene	ND	0.5	ug/L	03/14/2005 10:57	
trans-1,2-Dichloroethene	ND	0.5	ug/L	03/14/2005 10:57	
1,2-Dichloropropane	ND	0.5	ug/L	03/14/2005 10:57	
cis-1,3-Dichloropropene	ND	0.5	ug/L	03/14/2005 10:57	
trans-1,3-Dichloropropene	ND	0.5	ug/L	03/14/2005 10:57	
Ethylbenzene	ND	0.5	ug/L	03/14/2005 10:57	
Hexachlorobutadiene	ND	1.0	ug/L	03/14/2005 10:57	
2-Hexanone	ND	50	ug/L	03/14/2005 10:57	
Isopropylbenzene	ND	0.5	ug/L	03/14/2005 10:57	
p-Isopropyltoluene	ND	1.0	ug/L	03/14/2005 10:57	
Methylene chloride	ND	5.0	ug/L	03/14/2005 10:57	
4-Methyl-2-pentanone (MIBK)	ND	50	ug/L	03/14/2005 10:57	
Naphthalene	ND	1.0	ug/L	03/14/2005 10:57	
n-Propylbenzene	ND	1.0	ug/L	03/14/2005 10:57	
Styrene	ND	0.5	ug/L	03/14/2005 10:57	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	03/14/2005 10:57	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	03/14/2005 10:57	
Tetrachloroethene	ND	0.5	ug/L	03/14/2005 10:57	
Toluene	ND	0.5	ug/L	03/14/2005 10:57	
1,2,3-Trichlorobenzene	ND	1.0	ug/L	03/14/2005 10:57	
1,2,4-Trichlorobenzene	ND	1.0	ug/L	03/14/2005 10:57	
1,1,1-Trichloroethane	ND	0.5	ug/L	03/14/2005 10:57	
1,1,2-Trichloroethane	ND	0.5	ug/L	03/14/2005 10:57	
Trichloroethene	ND	0.5	ug/L	03/14/2005 10:57	

**Volatile Organic Compounds by 8260B**

SECOR-Sacramento

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Rancho Cordova, CA 95670

Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113

Received: 03/03/2005 16:30

Conoco Philips Site #11249

Site: 1300 Farmers Lane, Santa Rosa, CA

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

Method Blank

Water

QC Batch # 2005/03/14-1A.06

MB: 2005/03/14-1A.06-003

Date Extracted: 03/14/2005 10:57

Compound	Conc.	RL	Unit	Analyzed	Flag
Trichlorofluoromethane	ND	1.0	ug/L	03/14/2005 10:57	
Trichlorotrifluoroethane	ND	0.5	ug/L	03/14/2005 10:57	
1,2,4-Trimethylbenzene	ND	0.5	ug/L	03/14/2005 10:57	
1,3,5-Trimethylbenzene	ND	0.5	ug/L	03/14/2005 10:57	
Vinyl acetate	ND	25	ug/L	03/14/2005 10:57	
Vinyl chloride	ND	0.5	ug/L	03/14/2005 10:57	
Total xylenes	ND	1.0	ug/L	03/14/2005 10:57	
<b>Surrogates(s)</b>					
4-Bromofluorobenzene	95.0	79-118	%	03/14/2005 10:57	
1,2-Dichloroethane-d4	88.8	78-117	%	03/14/2005 10:57	
Toluene-d8	92.6	77-121	%	03/14/2005 10:57	

## Volatile Organic Compounds by 8260B

SECOR-Sacramento

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Phone: (916) 861-0400 Fax: (916) 861-0430

Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

## Batch QC Report

Prep(s): 5030B

Test(s): 8260B

## Laboratory Control Spike

## Water

## QC Batch # 2005/03/14-1A.06

LCS 2005/03/14-1A.06-002  
LCSD

Extracted: 03/14/2005

Analyzed: 03/14/2005 10:22

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		Rec.	RPD	LCS	LCSD
Benzene	19.6		20	98.0			69-129	20		
Chlorobenzene	19.6		20	98.0			61-121	20		
1,1-Dichloroethene	19.6		20	98.0			65-125	20		
Toluene	19.4		20	97.0			70-130	20		
Trichloroethene	19.4		20	97.0			74-134	20		
<i>Surrogates(s)</i>										
4-Bromofluorobenzene	469		500	93.8			79-118			
1,2-Dichloroethane-d4	429		500	85.8			78-117			
Toluene-d8	459		500	91.8			77-121			

## Volatile Organic Compounds by 8260B

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Project: 77CP.60004.01.4113  
Conoco Philips Site #11249

Received: 03/03/2005 16:30

Site: 1300 Farmers Lane, Santa Rosa, CA

## Batch QC Report

Prep(s): 5030B Test(s): 8260B

Matrix Spike ( MS / MSD ) Water QC Batch # 2005/03/14-1A.06

MS/MSD Lab ID: 2005-03-0132 - 001

MS: 2005/03/14-1A.06-010 Extracted: 03/14/2005 Analyzed: 03/14/2005 16:00

Dilution: 1.00

MSD: 2005/03/14-1A.06-011 Extracted: 03/14/2005 Analyzed: 03/14/2005 16:35

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level ug/L	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Benzene	21.2	20.9	ND	20	106.0	104.5	1.4	69-129	20		
Chlorobenzene	20.4	20.2	ND	20	102.0	101.0	1.0	61-121	20		
1,1-Dichloroethene	20.9	20.7	ND	20	104.5	103.5	1.0	65-125	20		
Toluene	20.9	20.2	ND	20	104.5	101.0	3.4	70-130	20		
Trichloroethene	20.8	20.6	ND	20	104.0	103.0	1.0	74-134	20		
<i>Surrogate(s)</i>											
4-Bromofluorobenzene	475	486		500	95.0	97.1		79-118			
1,2-Dichloroethane-d4	426	451		500	85.2	90.2		78-117			
Toluene-d8	461	466		500	92.2	93.2		77-121			

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## SEVERN TRENT LABORATORIES ANALYTICAL REPORT

JOB NUMBER: 234744

Prepared For:

Severn Trent Laboratories  
1220 Quarry Lane  
Pleasanton, CA 94566-4756

Project: STL San Francisco

Attention: Afsaneh Salimpour

Date: 03/08/2005

Bonnie Stadelmann  
Signature

03/08/05  
Date

Name: Bonnie M. Stadelmann

STL Chicago  
2417 Bond Street  
University Park, IL 60466

Title: Project Manager

E Mail: bstadelmann@stl-inc.com

PHONE: (708) 534-5200  
FAX.: (708) 534-5211

This Report Contains (8) Pages

STL Chicago is part of Severn Trent Laboratories, Inc.

SAMPLE INFORMATION	
Date: 03/08/2005	
Job Number.: 234744 Customer...: Severn Trent Laboratories Attn.....: Afsaneh Salimpour	Project Number.....: 20002032 Customer Project ID....: 2005-03-0126 Project Description....: STL San Francisco

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
234744-1	EX-1	Water	03/02/2005	11:15	03/05/2005	09:00

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Job Number: 234744		LABORATORY TEST RESULTS				Date: 03/08/2005	
CUSTOMER: Severn Trent Laboratories		PROJECT: 2005-03-D126		ATTN: Afshanch Salimpour			
Customer Sample ID: EX-1 Date Sampled.....: 03/02/2005 Time Sampled.....: 11:15 Sample Matrix.....: Water				Laboratory Sample ID: 234744-1 Date Received.....: 03/05/2005 Time Received.....: 09:00			
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH	
335.2	Cyanide, Total (Tit., Spec.) Cyanide, Total	<0.010	0.010	mg/L	03/07/05	mtb	
7.3.3.2/9014	Reactivity, Cyanide Reactivity, Cyanide	<0.01	0.01	mg/L	03/07/05	mtb	
7.3.4.2/9034	Reactivity, Sulfide Reactivity, Sulfide	<1.0	1.0	mg/L	03/07/05	mtb	
376.1	Sulfide (Titrimetric, iodine) Sulfide	<1.0	1.0	mg/L	03/07/05	mtb	

\* In Description = Dry Wgt.

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Job Number: 234744

LABORATORY CHRONICLE

Date: 03/08/2005

CUSTOMER: Severn Trent Laboratories

PROJECT: 2005-03-0126

ATTN: Afsaneh Salimpour

Lab ID: 234744-1 Client ID: EX-1  
METHOD DESCRIPTION  
335.2 Cyanide, Total (Tit., Spec.)  
PKG IND (WC) PKG IND (WET CHEMISTRY)  
7.3.3.2/9014 Reactivity, Cyanide  
7.3.4.2/9034 Reactivity, Sulfide  
376.1 Sulfide (Titrimetric, Iodine)

	Date Recvd:	03/05/2005	Sample Date:	03/02/2005	
	RUN#	BATCH#	PREP RT #(S)	DATE/TIME ANALYZED	DILUTION
	1	143416	143416	03/07/2005	1146
	1	143418	143418	03/07/2005	1146
	1	143338	143338	03/07/2005	0921
	1	143335	143335	03/07/2005	0921

Job Number.: 234744

## QUALITY CONTROL RESULTS

Report Date.: 03/08/2005

CUSTOMER: Severn Trent laboratories

PROJECT: 2005-03-0126

ATTN: Afzaneh Salimpour

Test Method.....: 335.2  
 Method Description: Cyanide, Total. (Tit., Spec.)  
 Parameter.....: Cyanide, Total

Batch.....: 143416  
 Equipment Code...: SPEC4

Analyst...: mtb  
 Test Code.: CN

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc. F *	Limits	Date	Time	
MB	143416-004		mg/L		0.00440 U					03/07/2005	1136	
LCS	143416-005	105BSTCN2	mg/L		0.09380		0.10000	0.00440 U	94 %	80-120	03/07/2005	1137

Test Method.....: 7.3.3.2/9014  
 Method Description: Reactivity, Cyanide  
 Parameter.....: Reactivity, Cyanide

Batch.....: 143418  
 Equipment Code...: SPEC4

Analyst...: mtb  
 Test Code.: REACCN

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc. F *	Limits	Date	Time	
MB	143418-004		mg/L		0.01000 U					03/07/2005	1136	
LCS	143418-005	105BSTCN2	mg/L		0.09380		0.10000	0.01000 U	94 %	80-120	03/07/2005	1137

Test Method.....: 7.3.4.2/9034  
 Method Description: Reactivity, Sulfide  
 Parameter.....: Reactivity, Sulfide

Batch.....: 143338  
 Equipment Code...: SPEC4

Analyst...: mtb  
 Test Code.: REACS

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc. F *	Limits	Date	Time	
MB	143338-001		mg/L		1.00000 U					03/07/2005	0915	
LCS	143338-002	105BSTSF1	mg/L		3.90000		3.84000	1.00000 U	102 %	80-120	03/07/2005	0918
MS	234744-1	105BSTSF1	mg/L		8.40000		9.60000	2.50000 U	88 %	75-125	03/07/2005	0924
MSD	234744-1	105BSTSF1	mg/L		8.50000	8.40000	9.60000	2.50000 U	89 %	75-125	03/07/2005	0927
								1.1 R 20				

Test Method.....: 376.1  
 Method Description: Sulfide (Titrimetric, iodine)  
 Parameter.....: Sulfide

Batch.....: 143335  
 Equipment Code...: SPEC4

Analyst...: mtb  
 Test Code.: SULFID

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc. F *	Limits	Date	Time	
MB	143335-001		mg/L		0.38000 U					03/07/2005	0915	
LCS	143335-002	105BSTSF1	mg/L		3.90000		3.84000	0.38000 U	102 %	80-120	03/07/2005	0918
MS	234744-1	105BSTSF1	mg/L		8.40000		9.60000	0.95000 U	88 %	75-125	03/07/2005	0924
MSD	234744-1	105BSTSF1	mg/L		8.50000	8.40000	9.60000	0.95000 U	89 %	75-125	03/07/2005	0927
								1.1 R 20				

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 03/08/2005

REPORT COMMENTS

- 1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.
- 2) Soil, sediment and sludge sample results are reported on a "dry weight" basis except when analyzed for landfill disposal or incineration parameters. All other solid matrix samples are reported on an "as received" basis unless noted differently.
- 3) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.
- 4) The test results for the noted analytical method(s) meet the requirements of NELAC. Lab Cert. ID# 100201
- 5) According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.

Glossary of flags, qualifiers and abbreviations (any number of which may appear in the report)

Inorganic Qualifiers (Q-Column)

- U Analyte was not detected at or above the stated limit.
- < Not detected at or above the reporting limit.
- J Result is less than the RL, but greater than or equal to the method detection limit.
- B Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
- S Result was determined by the Method of Standard Additions.
- F AFCEE: Result is less than the RL, but greater than or equal to the method detection limit.

Inorganic Flags (Flag Column)

- ICV,CCV,ICB,CCB,ISA,ISB,CRI,CRA,MRL: Instrument related QC exceed the upper or lower control limits.
- \* LCS, LCD, MD: Batch QC exceeds the upper or lower control limits.
- + HSA correlation coefficient is less than 0.995.
- 4 MS, MSB: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
- E SD: Serial dilution exceeds the control limits.
- R MB, EB1, EB2, EB3: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
- N MS, MSD: Spike recovery exceeds the upper or lower control limits.
- W AS(GFAA) Post-digestion spike was outside 85-115% control limits.

Organic Qualifiers (Q - Column)

- U Analyte was not detected at or above the stated limit.
- HD Compound not detected.
- J Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
- Q Result was qualitatively confirmed, but not quantified.
- C Pesticide identification was confirmed by GC/MS.
- Y The chromatographic response resembles a typical fuel pattern.
- Z The chromatographic response does not resemble a typical fuel pattern.
- E Result exceeded calibration range, secondary dilution required.
- F AFCEE:Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)

Organic Flags (Flags Column)

- B MB: Batch QC is greater than reporting limit.
- \* LCS, LCD, ELC, ELD, CV, MS, HSD, Surrogate: Batch QC exceeds the upper or lower control limits.
- ^ EB1, EB2, EB3, MLE: Batch QC is greater than reporting Limit
- A Concentration exceeds the Instrument calibration range
- H Concentration is below the method Reporting Limit (RL)
- B Compound was found in the blank and sample.
- D Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
- H Alternate peak selection upon analytical review
- I Indicates the presence of an interference, recovery is not calculated.
- M Manually integrated compound.
- P The lower of the two values is reported when the % difference between the results of two GC columns is

**QUALITY ASSURANCE METHODS**

**REFERENCES AND NOTES**

Report Date: 03/08/2005

greater than 25%.

**Abbreviations**

AS	Post Digestion Spike (GFAA Samples - See Note 1 below)
Batch	Designation given to identify a specific extraction, digestion, preparation set, or analysis set
CAP	Capillary Column CCB Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Confirmation analysis of original
C1	Confirmation analysis of A1 or D1
C2	Confirmation analysis of A2 or D2
C3	Confirmation analysis of A3 or D3
CRA	Low Level Standard Check - GFAA; Mercury
CRI	Low Level Standard Check - ICP
CV	Calibration Verification Standard
Dil Fac	Dilution Factor - Secondary dilution analysis
D1	Dilution 1
D2	Dilution 2
D3	Dilution 3
DLFac	Detection Limit Factor
DSH	Distilled Standard - High Level
DSL	Distilled Standard - Low Level
DSM	Distilled Standard - Medium Level
EB1	Extraction Blank 1
EB2	Extraction Blank 2
EB3	D1 Blank
ELC	Method Extracted LCS
ELD	Method Extracted LCD
TCAL	Initial calibration
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ISA	Interference Check Sample A - ICAP
ISB	Interference Check Sample B - ICAP
Job No.	The first six digits of the sample ID which refers to a specific client, project and sample group Lab ID An 8 number unique laboratory identification
LCD	Laboratory Control Standard Duplicate
LCS	Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest
MB	Method Blank or (PB) Preparation Blank
MD	Method Duplicate
MDL	Method Detection Limit
MLE	Medium Level Extraction Blank
MRL	Method Reporting Limit Standard
MSA	Method of Standard Additions
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not Detected
PREPF	Preparation factor used by the Laboratory's Information Management System (LIMS)
POS	Post Digestion Spike (ICAP)
RA	Re-analysis of original
A1	Re-analysis of D1
A2	Re-analysis of D2
A3	Re-analysis of D3
RD	Re-extraction of dilution
RE	Re-extraction of original
RC	Re-extraction Confirmation
RL	Reporting Limit
RPD	Relative Percent Difference of duplicate (unrounded) analyses
RRF	Relative Response Factor
RT	Retention Time

D-U-A-L I-Q-U-A-R-E-C-E-M-E-T-H-O-D-S

R E F E R E N C E S A N D N O T E S

Report Date: 03/08/2005

RTW      Retention Time Window Sample ID A 9 digit number unique for each sample, the first six digits are referred as the job number

SCB      Seeded Control Blank

SD      Serial Dilution (Calculated When sample concentration exceeds 50 times the MDL)

UCB      Unseeded Control Blank

SSV      Second Source Verification Standard

SLCS      Solid Laboratory Control Standard(LCS)

PHC      pH Calibration Check LCS pH Laboratory Control Sample

LCOP      pH Laboratory Control Sample Duplicate

HDPH      pH Sample Duplicate

HDPP      Flashpoint Sample Duplicate

LCFP      Flashpoint LCS

G1      Gelex Check Standard Range 0-1

G2      Gelex Check Standard Range 1-10

G3      Gelex Check Standard Range 10-100

G4      Gelex Check Standard Range 100-1000

Note 1: The Post Spike Designation on Batch QC for GFAA is designated with an "S" added to the current abbreviation used. EX. LCS S=LCS Post Spike (GFAA); MSS=MS Post Spike (GFAA)

Note 2: The MD calculates an absolute difference (A) when the sample concentration is less than 5 times the reporting limit. The control limit is represented as +/- the RL.

SEVERN  
TRENT

STL

Chain of Custody

234744

Date Shipped: 3/4/2005

2005-03-0126 - 1

From:

STL San Francisco (CL)  
1220 Quarry Lane  
Pleasanton, CA 94566-4756

To:

STL Chicago  
2417 Bond Street  
University Park, IL 60466

Project Manager: Afsaneh Salimpour  
Phone: (925) 484-1919 Ext: 107  
Fax: (925) 484-1098  
Email: asalimpour@stl-inc.com

Phone: (708) 534-5200 Ext:  
Fax: (708) 534-5211  
Contact: Bonnie Stadelmann  
Phone: (708) 534-5200 Ext: 154

CL Submission #: 2005-03-0126

Project #: 77CP.60004.01.4113  
Project Name: Conoco Philips Site #11249

EX-1	1	3/2/2005 11:15:00AM	Water	
Subcontract - Cyanide-Reactive ✓ Due: 3/8/05 ✓		335.2/9010A	3	Day
Subcontract - Cyanide-Total ✓ Due: 3/8/05 ✓		335.2/9010B	3	Day
Subcontract - Sulfide-Reactive ✓ Due: 3/8/05 ✓		SW375.4	3	Day
Subcontract - Sulfide-Total ✓ Due: 3/8/05 ✓		376.1/9030A	3	Day

PLEASE INCLUDE QC WITH FAXED AND HARD-COPY RESULTS

RUSH

RELINQUISHED BY:	1.
	1513C
Signature	Time
Bryan Thomas	3/4/05
Printed Name	Date
STL-SF	
Company	

RELINQUISHED BY:	2.
Signature	Time
Printed Name	Date
Company	

RELINQUISHED BY:	3.
Signature	Time
Printed Name	Date
Company	

RECEIVED BY:	1.
	0900
Signature	Time
Bryan Thomas	Date 3/5/05
Printed Name	Date
Company	

RECEIVED BY:	2.
Signature	Time
Printed Name	Date
Company	

RECEIVED BY:	3.
Signature	Time
Printed Name	Date
Company	

## STL-San Francisco

## ConocoPhillips Chain Of Custody Record

102410

1220 Quarry Lane Pleasanton, CA 94566 (925) 464-1919 (925) 484-1096 fax	ConocoPhillips Site Manager: <b>2005-03-0126</b>	INVOICE REMITTANCE ADDRESS: CONOCOPHILLIPS Attn: Doc Hutchinson 3511 South Harbor Drive Santa Ann, CA 92704	ConocoPhillips Work Order Number: <b>2389SEC003</b>	DATE: <b>03-02-05</b>																														
SECTOR International Inc ADDRESS: 1017 Kilgore Rd Suite 100, Rinconada, CA 95670 PROJECT CONTACT (Name, phone, fax, email): Amy Drafian (916) 861-0400 x 235 FAX: (916) 861-0430 CONSULTANT PROJECT NUMBER: <b>77CP.60004.D1.4413</b>	VIN#: <b>11748</b> Call Advanced Materials Corp: 1300 Farmers Lane, Santa Rosa, California ESP RECOMMENDED TO RTR or DTR:	ConocoPhillips Site Manager: Liz Scovill	ConocoPhillips Cost Object: <b>WHO.2389</b>	PAGE: <b>/ /</b> or <b>/</b>																														
SAMPLER NAME(S) (P/M): <b>JAMES PAUL</b>	TELEPHONE: (916) 861-0400 x 235	EMAIL: james.paul@sector.com	PHONE NO: (916) 861-0400 ext 236	E MAIL: edmund@sector.com																														
SPECIAL INSTRUCTIONS OR NOTES: <input type="checkbox"/> CHECK BOX IF EOD IS SPECIFIED																																		
FIELD NOTES: Containment/Preservation or PDI Readings or Laboratory Notes  <b>2.0</b>																																		
<table border="1"> <thead> <tr> <th colspan="2">REQUESTED ANALYSES</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/></td> <td>Turnaround Time (Calendar Days): <input type="checkbox"/> 14 DAYS <input checked="" type="checkbox"/> 7 DAYS <input type="checkbox"/> 72 HOURS <input type="checkbox"/> 48 HOURS <input type="checkbox"/> 24 HOURS <input type="checkbox"/> LESS THAN 24 HOURS</td> </tr> <tr> <td><input type="checkbox"/></td> <td>SPECIAL INSTRUCTIONS OR NOTES: <input type="checkbox"/> CHECK BOX IF EOD IS SPECIFIED</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Field Point name only required if different from Sample ID</td> </tr> <tr> <td>Lab Name Only</td> <td>Sample Identification/Field Point</td> </tr> <tr> <td>Name*</td> <td>DATE</td> <td>TIME</td> <td>MATRIX</td> <td>No. of Cont.</td> </tr> <tr> <td><b>EX-1</b></td> <td><b>030205</b></td> <td><b>11:15</b></td> <td><b>W</b></td> <td><b>13</b></td> </tr> <tr> <td colspan="5">Received by (Signature) Handwritten or Typed Received by (Signature) Handwritten or Typed Received by (Signature) Handwritten or Typed</td> </tr> <tr> <td colspan="5">DUE 3-2-05 TUE 3-2-05 DUE 3-3-05 TUE 3-3-05 DUE 3-3-05 TUE 3-3-05</td> </tr> </tbody> </table>					REQUESTED ANALYSES		<input checked="" type="checkbox"/>	Turnaround Time (Calendar Days): <input type="checkbox"/> 14 DAYS <input checked="" type="checkbox"/> 7 DAYS <input type="checkbox"/> 72 HOURS <input type="checkbox"/> 48 HOURS <input type="checkbox"/> 24 HOURS <input type="checkbox"/> LESS THAN 24 HOURS	<input type="checkbox"/>	SPECIAL INSTRUCTIONS OR NOTES: <input type="checkbox"/> CHECK BOX IF EOD IS SPECIFIED	<input type="checkbox"/>	Field Point name only required if different from Sample ID	Lab Name Only	Sample Identification/Field Point	Name*	DATE	TIME	MATRIX	No. of Cont.	<b>EX-1</b>	<b>030205</b>	<b>11:15</b>	<b>W</b>	<b>13</b>	Received by (Signature) Handwritten or Typed Received by (Signature) Handwritten or Typed Received by (Signature) Handwritten or Typed					DUE 3-2-05 TUE 3-2-05 DUE 3-3-05 TUE 3-3-05 DUE 3-3-05 TUE 3-3-05				
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